

BRITISH MUSEUM.

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A GUIDE  
TO THE  
PROCESSES AND SCHOOLS  
OF ENGRAVING

REPRESENTED IN  
THE EXHIBITION OF SELECT PRINTS

WITH NOTES ON SOME OF THE MOST  
IMPORTANT MASTERS.

*PRINTED BY ORDER OF THE TRUSTEES.*

1914.

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THE PROCESSES AND SCHOOLS  
OF ENGRAVING.



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*Department of Engraving*



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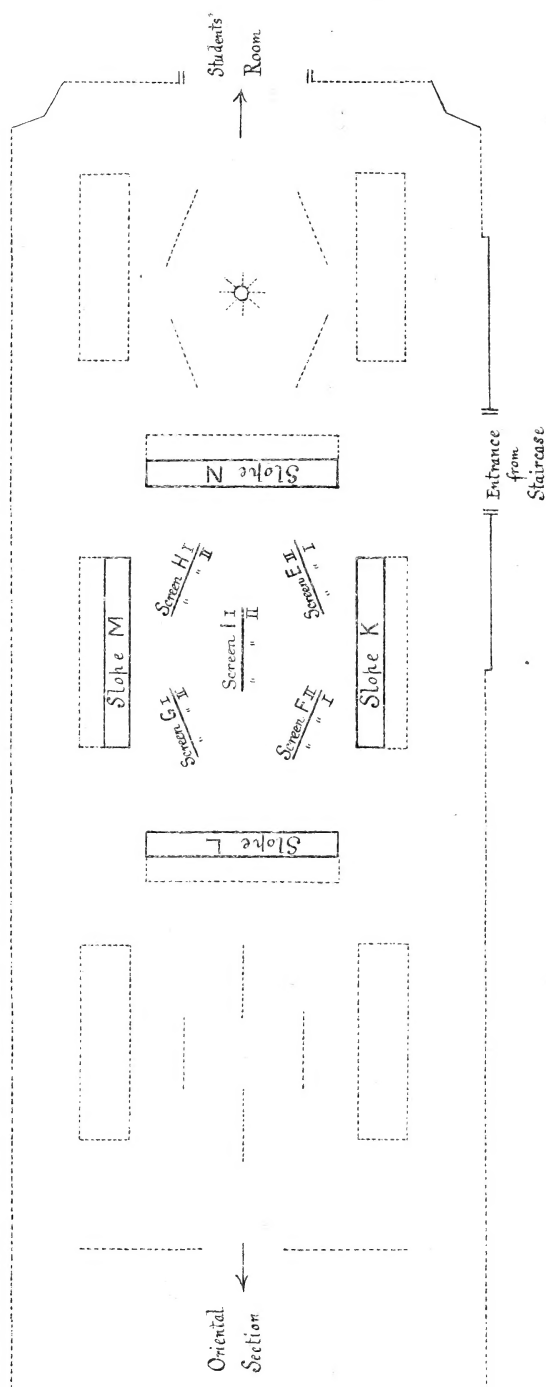
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PLAN OF THE EXHIBITION OF SELECT PRINTS.

The wall-cases, slopes, and screens not used in this exhibition are indicated by dotted lines.



## EXHIBITION OF SELECT PRINTS.

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THIS Exhibition aims at always presenting a few specimens illustrating each of the chief processes and schools of engraving. The specimens, selected from the finest impressions in the Department, will be changed periodically, so that students who pay occasional visits to the Exhibition gallery may have a better opportunity of getting to know the variety of the Museum collection without special requisition for prints in the Students' Room. The Guide offers a description of the various processes of engraving, and a short survey of the different schools, with notes on some of the most important engravers, who will be most generally represented in the Exhibition. The short survey of individual engravers may also afford some direction to less experienced students as to what to requisition in the Print Room from the portfolios in the Department. Living artists are not mentioned in this Guide, but examples of their work may be shown from time to time in the Exhibition.

The labels attached to the prints will give details supplementary to the Guide. The classification is according to processes under the following letters :—

- A. Woodcut and wood-engraving, and relief prints from metal plates.
- B. Line-engraving.
- C. Dry-point.
- D. Etching.
- E. Mezzotint.
- F. Stipple, crayon, and the dot-processes.
- G. Aquatint.
- H. Lithography, and surface prints from metal plates.
- J. Miscellaneous processes (such as monotypes and glass prints) which cannot be classed under any of the above headings.

The prints will not be numbered, but each label will bear the letter of its process.

When processes are combined on one plate (as frequently happens with engraving, etching and dry-point) several letters will be used.

The Exhibition is placed in Slopes K-N, and Screens E-I.

It is hoped later to exhibit a selection of engravers' tools and some original plates and blocks. The niello-plates, and sulphur casts from nielli, are at present shown in the sloping case in the Students' Room.

The above scheme has been drawn up, and the Guide written by Mr. Arthur M. Hind, M.A., Assistant in the Department of Prints and drawings.

CAMPBELL DODGSON.

## THE THREE MAIN CLASSES OF PRINTS.

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Prints may be classed as—

- I. RELIEF PRINTS,
- II. INTAGLIO PRINTS,
- III. SURFACE PRINTS,

according to whether the black line of the design (i.e. the part inked for printing) on the original block, plate, or stone, is I. in relief, II. in intaglio (i.e. cut into the surface), III. on the surface (i.e. on a level with the rest of the surface).

These divisions correspond roughly to—

- I. WOODCUT AND WOOD-ENGRAVING (Process A).
- II. ENGRAVING AND ETCHING ON METAL (Processes B-G).
- III. LITHOGRAPHY (Process H).

The chief exception to the correspondence is in the case of early relief prints on metal, as well as such experiments as Blake's etchings in relief, which are here treated in the same class as woodcuts, partaking as they do of the same essential character in the impression. A less important exception is formed by surface prints from metal plates, which can strictly be classed with lithographs on similar grounds, the impression being taken on exactly the same principle.

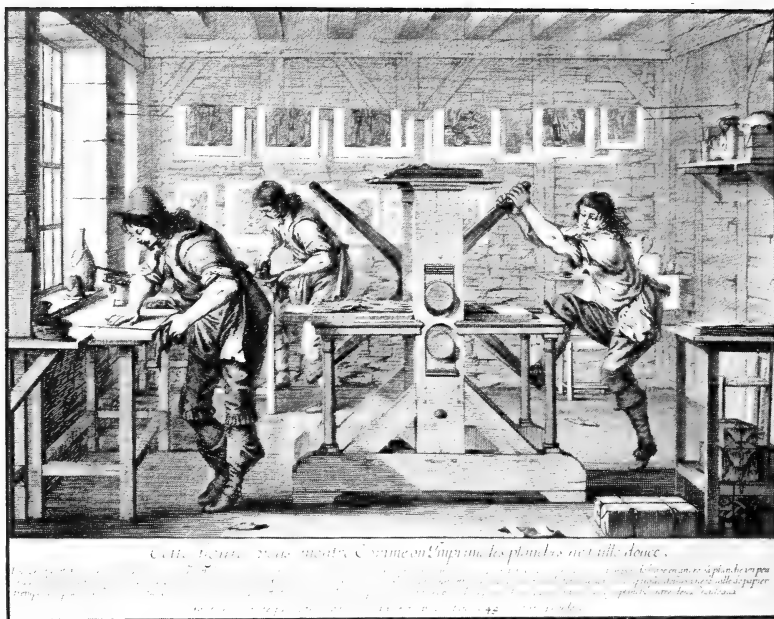


FIG. 1.—COPPER-PLATE PRINTERS AT WORK.  
From an Engraving by Abraham Bosse.

## THE THREE FORMS OF PRINTING USED RESPECTIVELY FOR THE THREE MAIN CLASSES OF PRINTS.

### I. RELIEF PRINTING.

This applies to woodcut and wood-engraving, and to metal plates cut, engraved, or etched in relief. The printing is from the parts left in relief, as in printing from type. The pressure required is comparatively small and *vertical*, the press being the same in principle as the ordinary printing press. The ink (applied by a roller or otherwise) is thicker and more sticky than that used in intaglio printing, so that it may lie on the surface and not flow into the hollows.

### II. INTAGLIO PRINTING.

This applies to all the intaglio processes B-G. Here the ink is not taken from the surface but from the furrows, or hollows in the plate. The ink is placed on the surface of the plate, and then pressed into the lines by repeated taps with a pad called the *dabber*. Then the ink on the surface

(or most of it) is removed by dragging printing muslin across the plate, and the rubbing generally finished with the palm of the hand covered with a layer of whitening mixed with printer's ink. The plate is either rubbed quite clean (as is generally the case with line-engravings), or more or less ink may be left on the surface to add a tint.

The hard effect of the lines may be softened by what is called *retroussage*, fine muslin being passed lightly over the surface of the inked and wiped plate. In this motion the muslin catches a small portion of the ink in the lines, draws it slightly upwards, and leaves traces of the ink at the side of the lines, which thus lose some of their sharpness of definition.

The paper is first damped, and then passed through a copper-plate press, which remains to-day in its essentials of the same form as illustrated in Bosse's engraving (fig. 1). The essential feature is a sliding board which passes between two rollers. The pressure is strong enough to force the damp paper into the hollows, and so to pull out the ink. One of the distinctive qualities of all intaglio engraving is its strength of line, the ink (taken from the furrow) standing in far greater relief on the paper than ink transferred from the surface of a block or stone. The brilliant tone of a line engraving is largely due to this in conjunction with the clearness and regularity of the cutting.

### III. LITHOGRAPHIC PRINTING.

Here the printing is from the surface, only that part of the surface of the stone drawn on with the lithographic crayon being able to hold the printer's ink. The pressure is applied by a scraping movement. The paper, laid on the inked stone and protected at the back, passes beneath a bar of wood (generally covered with leather and greased), which acts like the pressure of a burnisher in hand-printing (see next section).

The printing of lithographs is so closely bound up with the essential elements of the process that we reserve further description to the section devoted to Lithography.

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### PRINTING BY HAND PRESSURE.

It is also possible to obtain impressions by hand without the use of a press. It is the usual practice of the goldsmith to prove his work, or to keep a record of his engraved design, by rubbing. The plate being inked, the damp paper is laid on the surface and its back generally covered with another piece of smooth paper. This is then rubbed and pressed on to the plate with the burnisher, or some flat metal rod.

Prints from wood-blocks might be taken similarly, rubbed on the back by a flat piece of wood or a "frotton" of leather, or a hand roller might sometimes have been used instead of the rubber. In any case a considerable number of the earliest woodcuts seem, from their uneven printing, to have been rubbed by one or the other method by hand.



FIG. 2.—THE WOODCUTTER.

From a woodcut by Jost Amman (in H. Schopper, *Panoplia omnium Artium*. Frankfort, 1568).

## THE VARIOUS PROCESSES OF PREPARING THE BLOCK, PLATE, OR STONE, AND A SURVEY OF THE HISTORY OF EACH.

### A. WOODCUT AND WOOD-ENGRAVING, AND RELIEF PRINTS FROM METAL PLATES.

#### PROCESS.

In woodcut and wood-engraving, the design is drawn directly on the surface of the block, and the parts which are to print white are cut away, leaving the black lines or spaces in relief. In the cutting of a series of close lines in cross-hatching the work is delicate, as all the interstices of the cross-hatching have to be cut out. The tool used is either a knife, or a graver. The shape of the knife is like that of an ordinary pen-knife with its cutting edge at an acute angle with the back of the knife, as illustrated in Jost Amman's woodcut (fig. 2).

The *graver*, or *burin*, is a small steel rod, of square or lozenge section, with its point sharpened in an oblique section. The usual shape of the

handle is best shown in the illustration below (fig. 3). It is the same tool that is used in line-engraving, and the way it is used is practically the same in each process, the handle being held against the palm, and the blade pushed before the hand, ploughing up the furrows (see line-engraving, and the illustration from Faithorne, fig. 5). The wood-

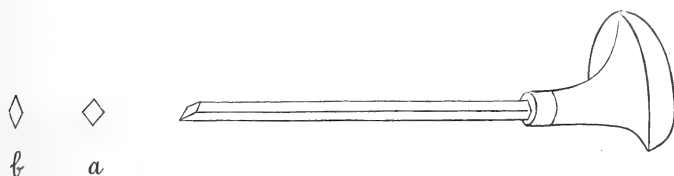


FIG. 3.—THE GRAVER, OR BURIN; with square, and lozenge sections.

engraver also uses a variety of graver which is more nearly triangular in section, and sharpened at a more or less acute angle according to the delicacy of the line required. This acutely sharpened graver is called the *tint-tool*, as it is used in making delicate series of lines to produce a tone or tint (fig. 4, and section *a*). A similar shape is also sharpened

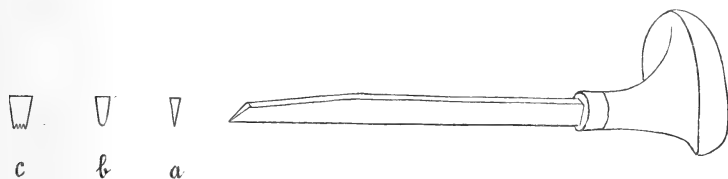


FIG. 4.—THE TINT-TOOL, and section (*a*). Also section showing the form of the *scorper* (*b*), and the *threading tool* (*c*).

with a flat bottom, which is threaded more or less finely to produce a series of parallel lines (*the threading tool*, fig. 4, section *c*). It may also be sharpened like a gouge (fig. 4, and section *b*), and used for clearing away broader spaces of the block (being in this form usually called the *scorper*). And flat tools, or chisels, are also used for clearing away parts of the wood outside the lines in relief on the outer parts of the block.

In cutting with the knife, the wood used is always part of the plank of a tree of fairly soft wood, e.g. pear, apple, sycamore, or beech. The plank is a piece of a tree sawn with the grain, i.e. lengthwise, and planed down. Early work with the graver on wood may also have been done on the plank. In modern wood-engraving, box cut in a section across the grain is the usual wood. It is of much harder texture than the other woods mentioned, and fit for more delicate work. Boxwood cut in the plank was occasionally used by Papillon (1698–1776), but cut across the grain it did not come into use until the end of the XVIIIth century. The thickness of wood blocks is about  $\frac{7}{8}$  inch, i.e. a size which will conveniently print in conjunction with type. Some earlier blocks are considerably thicker, and the ordinary height of type would naturally not have to be considered in woodcuts designed for separate printing. Sections of box cannot, of course, be got so large as pieces of the plank of

other trees, and for larger woodcuts several blocks have to be made up and fitted together. Later impressions from large wood blocks often show white gaps where the wood has warped, and the join slightly separated.

A certain number (but quite a small proportion) of the black-line relief prints of the XVth and XVIth centuries are known to have been cut on metal. Not, as is sometimes contended, the rude early cuts, but the more delicate work such as is found in various French Books of Hours of about 1500, and in the borders and ornaments used by Basle printers of the XVIth century.

Woodcuts in which the *black line* is intended for the design is a negative process in so far as the whites, i.e. the negative parts of the design, have to be cut away.

The *white-line* method, on the other hand, is positive. The cutter or engraver here regards the surface as a black background, and the lines he engraves form his design in white line.

The earliest examples of white-line cuts are the "dotted prints" in the *manière criblée*. The material used is a metal plate, but as the printing is from the parts of the surface in relief, it is proper to class these prints with woodcuts. For convenience of printing in relief these plates appear often to have been fastened to wood-blocks, if this is the right interpretation of the pin holes seen at the corners of some impressions. The name *manière criblée* comes from *crible*, the French for a *sieve*, as part of the effect is often achieved by groups of dots (produced by punches) resembling a sieve. These dots were used quite indiscriminately on the different parts of the design, wherever the artist wished to break up his background. "Dotted prints" is generally used as the English term, but the white line is an even more important element in the process. Various forms of punches and stamps, their heads lined with different patterns, are also used, to avoid repeated engraving, and to express various conventional forms in the design.

A considerable number of the cuts in the French Books of Hours (of about 1500) show similar white dotted work on a black ground, but they are not properly classed with the prints in the *manière criblée*, as the design is always in black line, and the dots are reserved for the background.

Plates engraved in the same manner as these white-line metal-cuts of the XVth century are also sometimes found printed in intaglio. Generally a glutinous ink (*paste*) was used, so that gold-leaf could be attached, and further tints of colour were sometimes added to the impressions. They are generally called *paste-prints* (in German, *Teigdrucke*).

Another very rare type of early print in which *paste* has been used might be called *flock-prints*. The velvety surface seems to have been obtained by sprinkling dry powdered colour on to the damp paste impression, and the textile appearance might be enhanced by preparing the paper with series of short flicks cut in the surface. The German title for such flock-prints is *Samt-teigdrucke*, the French *empreintes veloutées*. They are apparently printed from ordinary black-line woodcuts.

The process of using several wood-blocks in conjunction on one



subject to render various tones or colours, is called the *chiaroscuro*\* method, from its imitation of light and dark tones. The main black outlines are given on one block (the *key-block*), and the spaces of tone or colour cut out on other blocks, one being used for each tone. In ordinary *chiaroscuro*-cuts it is not often that more than two or three tone blocks are used. In colour-woodcuts a much larger number might of course be used. The printing from several blocks needs care to ensure the corresponding parts of the subject being exactly superposed. The exact register in making the tone-blocks would be obtained by transferring to the surface a print from the key-block. And by the use of pins, exactly corresponding places in the corners of each block could be marked so that the impressions could be pulled with exact register.

Colour- or tone-prints are also sometimes pulled from metal plates in conjunction with wood-blocks (e.g. by the late *chiaroscuro*-engravers and by **George Baxter**).

It may also be added that plates for relief printing have occasionally been produced (e.g. by **William Blake**) by etching away the negative parts of the design. The design would need to be drawn on the surface with a varnish that would resist the acid.

Finally it should be observed that a large proportion of XIXth century illustrations described as wood-engravings are printed not from the wood, but from electrotypes taken from the wood. The electrotypes gives, of course, an almost perfect facsimile of the block, but it is distinctly open to question as to whether prints for electrotypes should not be strictly classed as reproductions, like photogravures of etchings or engravings.

## HISTORY.

The earliest impressions on paper from wood-blocks date about the end of the XIVth century. The art, developed out of the practice, common throughout the Middle Ages, of printing patterns on textiles (*Zeugdrucke*) from wood-blocks, or *forms*, as they were called. The cutter of these pattern-blocks, who was classed in the guilds with the carpenter, was the original *Formschneider*, the term frequently used for the earlier woodcutters.

One of the earliest uses to which woodcut was applied was to printing pictures of the Passion of Christ and of Saints (*Heiligenbilder*, *Helgen*), to be sold or distributed to pilgrims at the different shrines. Most of these early single leaf cuts of saints were probably produced by the monks, or at least in the convents. Paper was not procurable in any large quantities in central Europe until the XIVth century, and the popularity of these prints of saints may have encouraged the manufacture. In the Middle Ages vellum had been almost universally used for manuscripts, but only a small proportion of the early woodcuts are on this material.

Another of the early uses of woodcut was the production of *playing-cards*. Playing-cards are known to have been introduced into Germany by 1377, and they may have been cut on wood as early as any of the pictures of saints, but no existing packs can be dated with any certainty before the middle of the XVth century.

Another branch of early woodcut work is seen in the *block-books*, i.e.

\* *Camaieu* is the French term.

books in which both text and illustrations were cut on the block, no movable type being used. One would expect, and the older literature has assumed, that this form of book preceded the introduction of movable type (which occurred just before 1450), but none of the existing block-books can be dated with any probability before about 1460. But even a single leaf woodcut with text cut on the same block already possesses all the essential elements of the block-book, and of these some certainly date before the earliest printed books, so that in principle at least the block-book is a forerunner of printing in type.

Upper Germany and the Netherlands seem to have been the regions in which most of the earliest woodcuts were produced. There has been much discussion, and still exists great difference of opinion, as to the nationality of many of the earliest woodcuts, different writers claiming for Germany, the Netherlands, and France, respectively, the priority in their production. The Italian school is more generally allowed to be a later comer in the field. In any case single-leaf Italian woodcuts are much rarer than the Northern works, and there seems no reason to date any of them before the XVth century. A few names are found on some of the early cuts, but practically nothing is known about the artists, and the most searching critical study of XIVth and XVth century woodcuts has constantly to be satisfied with mere approximations of locality and date.

Of the block-books one might mention among the finest and earliest which seem to have been produced in the Netherlands about 1460-70: the *Biblia Pauperum*, the *Canticum Canticorum*, the *Ars Moriendi*, and the *Speculum Humanae Salvationis*; and from a somewhat inferior and slightly later group, the *Apocalypse*, the *Antichrist*, and the *Ars Memorandi*.

The British Museum block-books are preserved in the general library, only a few fragments belonging to the Department of Prints and Drawings. The same may be said of a very large proportion of woodcuts in general, as so many of these are illustrations in books. Woodcut being printed in relief, is perfectly adapted for printing in conjunction with type (while an intaglio engraving used as a book illustration needs a second printing in the double roller press), and the pioneer makers of books soon turned to woodcut as a method of illustration. The earliest books containing woodcuts (printed by Albrecht Pfister of Bamberg) date about 1460-62, but woodcut illustration only became common in Germany after 1470, and in Italy nearly two decades later. Thenceforward to the end of the XVIth century woodcut remained the commonest form of book illustration. Its popularity for this purpose yielded to engravings on metal during the XVIIth and XVIIIth centuries, and it only partially regained its position in illustration in the XIXth century from the time of Bewick onwards.

We have described the process of *dotted prints* (prints in the *manière criblée*). They are not among the earliest cuts, but to judge from their style seem for the most part to have been produced during the second half of the XVth century. They are the first examples of the use of the white line in relief prints. A considerable number of Italian (chiefly Florentine) woodcuts of the XVth and early XVIth centuries also show the white-line method, but apart from these, and isolated examples such as **Urs Graf** (Solothurn, Zurich, Basle; about 1485-1529) and **Giuseppe**

**Scolari** (Vicenza; worked about 1580), we do not find it in frequent use until the time of Bewick.

Many of the artists who have designed woodcuts were not their own cutters (e.g. **Dürer** and **Holbein**). The work of cutting away the negative parts of a design can hardly add to the inspiration of a woodcut, and in general it would seem enough for the artist to have drawn his designs on the wood with the lines as they were to appear in the print, to justify us in regarding him as the author of the woodcut. Here and there the craftsman who merely cuts the design drawn by another on the block is worthy of special remembrance—as with **Hans Lützelburger**, the wonderful cutter of Holbein's *Dance of Death*. It is, of course, an entirely different matter when the woodcutter or engraver is reproducing the work of another, and translating this work into his own conventions. He is then in the truest sense the author of the print.

Among the woodcut artists (chiefly designers) at the end of the XVth and earlier half of the XVIth century, we may mention the following :

**Albrecht Dürer**. Nuremberg. 1471–1528. The greatest of all designers of woodcuts.

**Hans Sebald Beham**. Nuremberg, Frankfort. 1500–50.

**Hans Leonhard Schäufelein**. Nuremberg, Augsburg, Nördlingen. About 1480–1539.

**Hans Burgkmair**, the elder. Augsburg. 1473–1531.

**Hans Weiditz**. Augsburg, Strassburg. Worked about 1518–36.

**Albrecht Altdorfer**. Ratisbon. About 1480–1538.

**Wolfgang Huber**. Feldkirch, Passau. About 1490–1553.

**Lucas Cranach**, the elder. Cronach, Vienna, Wittenberg, Weimar. 1472–1553.

**Hans Baldung (Grün)**. Strassburg, Freiburg in Breisgau. About 1476–1545.

**Johann Wechtlin**. Strassburg. d. 1530.

**Nicolas Manuel Deutsch**. Berne. About 1484–1530.

**Urs Graf**. Solothurn, Zurich, Basle. About 1485–1529.

**Lucas van Leyden**. Leyden, Antwerp. 1494–1533.

**Jacob Cornelisz. (van Oostsanen)**. Amsterdam. About 1480–after 1533.

**Hans Holbein**. Augsburg, Basle, Antwerp, England. 1497–1543.

**Hans Lützelburger**. Basle. d. 1526. The cutter of part at least of Holbein's *Dance of Death*, and *Old Testament Illustrations*.

**The Master I. B. (with the Bird)**. North Italy. Worked about 1500. His signature is formed by the initials I. B., followed by a little picture of a bird. He has been called Giovanni Battista del Porto, but the identification is very uncertain.

**Jacopo de' Barbari**. Venice, Nuremberg, Burgundy. About 1450–before 1516.

**Domenico Campagnola**. Padua. Worked about 1511–after 1563,

**Niccolò Boldrini.** Vicenza, Venice. Worked until about 1566. The identification with Giuseppe Niccolò Vicentino, the chiaroscuro cutter, is uncertain.

Among other woodcutters of the middle and latter part of the XVIth century the most noteworthy are :

**Giuseppe Scolari.** Vicenza. Worked about 1580. Of particular interest for his use of the white line.

**Jost Amman.** Zurich, Nuremberg. 1539-91.

**Virgil Solis.** Nuremberg. 1514-62.

**Tobias Stimmer.** Schaffhausen. 1539-after 1583.

**Bernard Salomon.** Lyons. About 1508-61?

The XVIIth and XVIIIth centuries form a somewhat barren period in the history of woodcut. In the XVIIth century the best work (omitting chiaroscuro, of which a survey is given below) was being done in the Netherlands by the following masters :

**Christoffel Jegher.** Antwerp. 1596-about 1652. Worked chiefly after Rubens.

**Jan Lievens.** Leyden, Amsterdam, England, Antwerp, the Hague. 1607-74. A few very fine portraits.

**Dirk de Bray.** Haarlem. Worked about 1656-77.

In France the most notable name is—

**Jean Michel Papillon.** Paris. 1698-1776. He produced an enormous number of small cuts for book illustration and decoration.

The modern period of wood-engraving may be said to date from the time of **Thomas Bewick** (Newcastle; 1753-1828). Bewick's particular merit lies in the revival of the use of the white line in wood-engraving. Moreover, blocks of boxwood cut across the grain were first introduced in his time, and a comparison of Papillon's work with Bewick's immediately shows the added clearness and delicacy achieved thereby in small illustrations.

A few most beautiful woodcuts were also produced by the great imaginative artist, **William Blake** (1757-1827). Blake is more peculiarly interesting for his original method of etching in relief, by which he multiplied and illustrated the books of poetry and prophecy for which he could find no publisher. These plates, being printed in relief, are classed in the same category as woodcuts.

Of other wood-engravers of the late XVIIIth and early XIXth centuries we may mention :

**Charlton Nesbit.** Newcastle, London. 1775-1838.

**Luke Clennell.** Newcastle, London. 1781-1840.

**William Harvey.** Newcastle, London. 1796-1866.

Harvey and the two preceding were pupils of Bewick.

**Allen Robert Branston.** London. 1778-1827.

**John Thompson.** London. 1785-1866.

Both Branston and Thompson kept more to the black-line method than the Bewick school, imitating somewhat too closely the convention

of the line-engraver. They largely reproduced the designs of John Thurston (1774-1822).

**Samuel Williams.** Colechester, London. 1788-1853.

**Thomas Williams.** Colchester, London. Worked about 1830.

In the latter part of the XIXth century a large proportion of book-illustrations was done on wood, after designs by **Sir J. E. Millais**, **Sir John Gilbert**, **Fred Walker**, **Frederick Sandys**, **G. J. Pinwell**, and others. The most prolific of the engravers were the brothers **Edward Dalziel** (1817-1905) and **George Dalziel** (1815-1902), and **Joseph Swain** (1820-1909).

Their work shows a complex combination of the black-and-white-line methods, attaining to great technical accomplishment. Work of similar technical character was being done in Germany by **F. L. Unzelmann** (Berlin, Vienna; 1797-1854), and other wood-engravers, after **Adolf von Menzel** (Berlin; 1815-1905).

In France two of the most skilful engravers of the latter part of the XIXth century were **A. F. Pannemaker** (Brussels, Paris; b. 1822) and his son **Stephane Pannemaker** (1847-1900), who both worked largely after designs by **Gustave Doré** (1833-83). Among engravers who worked in America the most famous was **William James Linton** (England until 1866; later at Appledore, Connecticut; 1812-98), the author of an important book on the history of wood-engraving.

A splendid series of woodcuts, largely executed in the simple black-line method of the late XVth and early XVIth century Italian illustrators was produced from the designs of **William Morris** and **Sir Edward Burne-Jones** for the books of the Kelmescott Press (1891-98). The principal engraver was **William Hooper** (1834-1912). A large number of the original wood-blocks from this press are now preserved in the Department.

*Chiaroscuro woodcuts* were produced in Germany from 1508 by the following masters :

**Lucas Cranach I**, **Hans Burgkmair I**, **Hans Baldung**, **Johann Wechtlin** (see above for dates). The process was introduced into Italy by **Ugo da Carpi** (Carpi, Venice, Rome; about 1455-1523). It was a popular method of woodcut in Italy throughout the XVIth century. Besides Ugo da Carpi the best Italian chiaroscuro cutters were :

**Antonio da Trento** (Antonio Fantuzzi?). Trent, Bologna, Fontainebleau. About 1508-after 1550.

**Giuseppe Niccolò Vicentino.** Vicenza, Bologna. About 1510-after 1540.

The identification with Niccolò Boldrini is uncertain.

**Andrea Andreani.** Mantua, Rome, Florence. About 1540-after 1609.

**Bartolommeo Coriolano.** Bologna. 1599-1676.

Chiaroscuro was also practised at the end of the XVIth and beginning of the XVIIth century in the Netherlands and in France. The best masters being :

**Hendrik Goltzius.** Haarlem. 1558-1616.

**Abraham Bloemaert.** Utrecht, Paris. 1564-1657.

**Frederik Bloemaert.** Utrecht. About 1600–after 1668. He combined tone-blocks with an engraved plate.

**Christoffel Jegher.** Antwerp. 1596–about 1652.

**Louis Businck.** Minden, Paris. b. 1590?

In the XVIIIth century the art was revived and practised by:

**Elisha Kirkall.** Sheffield, London. 1682?–1742? He combined tone-blocks with a mezzotint plate.

**John Baptist Jackson.** London, Paris, Italy. 1701–after 1754.

**Arthur Pond.** London. About 1705–1758.

**Charles Knapton.** London. 1700–60.

Pond and Knapton combined tone-blocks with an etched plate in their imitations of drawings.

**John Skippe.** 1742?–96?

**Nicolas Le Sueur.** Paris. 1690–1764.

**Vincent Le Sueur.** Paris. d. 1743.

Nicolas and Vincent Le Sueur made tone-blocks to be combined with etched or engraved plates by C. N. Cochin I, Caylus, etc., in the *Cabinet Crozat*, 1729.

**Anton Maria Zanetti, the elder.** Venice. 1680–1757.

## B. LINE-ENGRAVING.

## PROCESS.

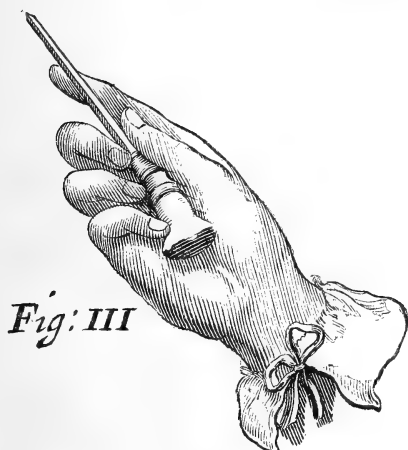
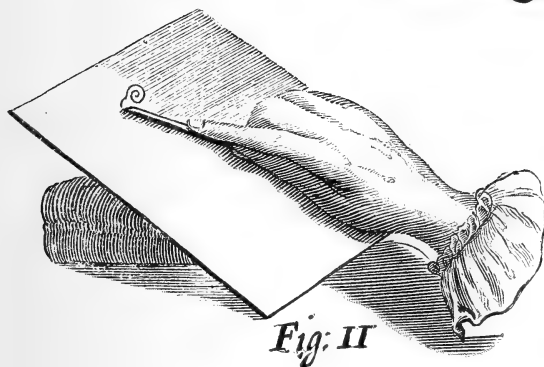


FIG. 5.—THE USE OF THE GRAVER. From an engraving in William Faithorne's *Art of Graving and Etching*, London, 1662.

The material used in all the intaglio processes is a finely polished plate of metal, generally of copper, but sometimes of other metals, such as iron, zinc, pewter, or silver. The tool used in line-engraving, the *graver* or *burin*, has already been described and illustrated under Woodcut. The way in which the graver is used is best shown in the plate from William Faithorne's *Art of Graving and Etching*, 1662 (fig. 5). The plate is laid on a pad to facilitate its turning. The copper cut away by the graver is thrown out chiefly in front of the point of the graver, but also slightly lifted and curled at either side of the furrow. With a perfectly sharpened graver, this curl of metal at the side will be very slight. This *burr*, as it is called in itself and in its results, would retain ink in the printing, which could not be wiped from the surface of the plate. So that the line, if untouched, would print with more or less tone at the side, according to the strength of the *burr*. As the aim

of line-engraving is clearness of line, the *burr* is always removed. It is cut from the surface by means of the *scraper*, an instrument with a

triple cutting blade (fig. 6). The *scraper* is also used in all the intaglio processes for correction. The surface of the plate can be cut away to the bottom of the furrow or furrows wrongly engraved; the surface

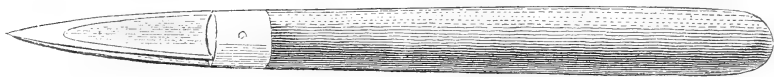


FIG. 6.—THE SCRAPER.

brought level again by hammering the back of the plate, and polished by means of the *burnisher*. The *burnisher*, an instrument of an oval section with a rounded and highly-polished edge (fig. 7), may also be used for removing shallow lines, by rubbing down the surface.



FIG. 7.—THE BURNISHER.

*Niello*.—The process of *niello*, a branch of the goldsmith's work chiefly practised in the second half of the XVth century, may be described here on account of its close relation to line-engraving (see also pp. 21, 22). The *niello* was a small metal plate (generally of silver, sometimes of gold) in which the lines, cut as in line-engraving, were filled with a black substance (*nigellum*, *niello*), formed of a composition of lead, silver, copper and sulphur. Powdered *niello* was laid on the surface, melted by the application of heat, and so fused into the lines. After the composition had cooled, the surface would be burnished, and the design appear in black on a bright polished ground. The aim of a *niello* is not a print, but the use of the plate itself as decoration, and the rare impressions known from *nielli* proper are only the proofs taken by the goldsmiths as records of their work. They also took *sulphur casts* of the *niello*-plates, and may have rubbed their proofs from these rather than from the original silver. Apart from that possible use, the sulphur casts filled with ink show up the work with even greater brilliance than an impression on paper, and they may on that account have been made for their own sake.

#### HISTORY.

Engraving on metal as a means of decoration was a branch of the goldsmith's craft constantly practised in antiquity and the Middle Ages; but it was not done for the purpose of printing on paper until the first part of the XVth century. The earliest date on any prints in line-engraving is that of 1446 on one of a series of the Passion of Christ preserved of Berlin (the *Master of 1446*). But some at least of the work of another anonymous engraver, known from his most extensive work, as the *Master of the Playing Cards*, certainly preceded this date, possibly by as much as a decade. From his style he is generally located in Upper Germany. The earliest engravers of Germany and the Netherlands have for the most part been distinguished for convenience by the dates found on their work, or the name of their principal productions. We may mention:



**The Master of the Death of Mary.**

**The Master of the Gardens of Love.**

**The Master of the Mount of Calvary.**

**The Master of the Banderoles** (also called the **Master of the year 1464**).

**The Master of the Berlin Passion** (not to be confused with the Master of 1446). Has been identified with the father of Israhel van Meckenem.

Far more accomplished and prolific than any of the preceding is **The Master E. S.** The dates 1466 and 1467 occur on some of his prints, but his early work may reasonably be placed at least as early as 1450.

Of a somewhat later generation is **Martin Schongauer** (Colmar; about 1445-91), who forms the chief link in the development from E. S. to Dürer. As an artist of expressive power, he far surpassed E. S., who was still eminently a craftsman.

The following may be cited as the chief masters of Germany and the Netherlands of about the same generation as Schongauer:

**The Master B. M.**

**The Master LC** 

**The Master A. G.**

**The Master P M.**

**The Master of the Boccaccio Illustrations** (Bruges, 1476).

**The Master W** 

**The I A M of Zwolle.**

**Allart du Hameel.**

**The Master F V B** (Franz von Bocholt?).

**Israhel van Meckenem.** Bocholt. d. 1503.

Still archaic in style, but of about the same generation as Dürer, are the following:

**Nicolaus Alexander Mair**, Landshut. Worked about 1500.

**The Master M. Z.** (Matthäus Zasinger?). Worked about 1500.

In Italy the earliest engraver whose name is known is **Maso Finiguerra** (Florence; 1426-64). Vasari in his 'Lives of the Painters' calls him the inventor of engraving, describing how the art developed from the practice of niello. There is no question that the technical character of niello and line-engraving are closely allied, and Finiguerra probably took up line-engraving after working as a goldsmith in niello. But he cannot be regarded as the inventor of an art, which is proved to have been practised in Germany before 1446 (when Finiguerra was twenty). And there is a group of early Florentine engravings by the **Master of the Larger Vienna Passion**, which one may reasonably date somewhat before any of the prints which can be attributed to Finiguerra.

The British Museum possesses one of the largest collections of the very rare early Italian engravings, and also some niello plates, and several of

the sulphur casts from nielli. The cast of the *Coronation of the Virgin*, from the niello plate (formerly, but wrongly, attributed to Maso Finiguerra) preserved in the Bargello, Florence, is the most perfect of these sulphurs in existence. In connexion with *nielli*, which were chiefly produced in Italy between about 1450 and 1510, it may be mentioned that there are two principal schools, that of Finiguerra in Florence and that of Francesco Francia and his followers in Bologna. The Bolognese nielli are for the most part the more finely engraved, the lines being almost lost in the general tone. Supplementary to the *nielli* proper are a considerable number of plates engraved in the same manner, but definitely intended for printing.

Early Florentine engraving shows two distinct groups, called from their most marked difference of style, the *Fine* and the *Broad* manners. The *Fine Manner*, which characterised the workshop of Finiguerra and his followers, was the more closely allied to the technical quality of niello. The lines of shading are laid closely and with frequent cross-hatching, giving the idea of a washed drawing. The *Broad Manner*, on the other hand, imitates the style of an open pen drawing, in which the lines are chiefly laid in parallel strokes, generally with a lighter return stroke at a small angle between the parallels. No master has been suggested with any strong evidence as the head of this second workshop, which for the most part shows the influence of Pesellino, Filippo Lippi and Baldovinetti.

**Baccio Baldini** is mentioned by Vasari as a successor of Finiguerra, who worked chiefly from Botticelli's designs, and in several dictionaries and old handbooks practically all the important early Florentine engravings are placed under his name; but exact evidence as to his personality or work is almost entirely wanting.

The only other names of importance in early Florentine engraving are those of the famous goldsmith, **Antonio Pollaiuolo** (1432?-98), though he is only responsible for one large engraving, and **Cristofano Robetta** (1462-after 1521).

The anonymous Ferrarese series of instructive prints, wrongly called *Tarocchi Cards*, are among the earliest engravings of North Italy (about 1465). A series of copies (probably Florentine) of the same series is held by some critics to be the original.

By far the greatest, and also one of the earliest, of North Italian engravers, is the famous painter **Andrea Mantegna** (Vicenza, Padua, Mantua; 1431-1506). The technical character of his work, in its open system of parallel lines, is closely akin to the *Broad Manner* Florentine group. A few engravings (only one with any show of reason) are also attributed to **Leonardo da Vinci** (Florence, Milan, Amboise; 1452-1519).

Of other engravers of North Italy of about 1500 the following are the most interesting:

**Zoan Andrea**. Mantua, Milan. Worked about 1475-1505.

**Giovanni Antonio da Brescia**. Brescia? Rome. Worked from before 1500-after 1516.

**Girolamo Mocetto**. Venice. Before 1458-after 1530.

**Jacopo de' Barbari**. Venice, Nuremberg, Burgundy. About 1450-before 1516.

**Benedetto Montagna**. Vicenza. About 1470-after 1540.

**Giulio Campagnola.** Padua, Ferrara, Venice. About 1482–after 1514.

**Domenico Campagnola.** Padua. Worked about 1511–after 1563.

**Nicoletto Rosex da Modena.** Modena? Worked about 1490–after 1511.

The three greatest line-engravers at the full development of the art are :

**Albrecht Dürer.** Nuremberg. 1471–1528.

**Marcantonio Raimondi.** Bologna, Venice, Rome. About 1480–about 1530.

**Lucas van Leyden.** Leyden, Antwerp. 1494–1533.

The work of Dürer and Lucas van Leyden was entirely original. Marcantonio, on the other hand, was to a large extent a reproductive engraver, in so far as he based most of his prints on drawings by other artists, chiefly on Raphael. But he was the most original of interpreters.

Of the German school of the XVIth century the most important engravers next to Dürer are :

**Albrecht Altdorfer.** Ratisbon. About 1480–1538.

**Barthel Beham.** Nuremberg, Munich, Italy. 1502–40.

**Hans Sebald Beham.** Nuremberg, Frankfort. 1500–50.

**Georg Pencz.** Nuremberg. About 1500–50.

**The Master I B.** Worked about 1525–30. (Has been identified by some writers with Georg Pencz.)

The five preceding engravers, who chiefly worked on small plates, are the most important members of the group of ‘Little Masters.’

**Virgil Solis.** Nuremberg. 1514–62.

Among the early Netherlandish engravers in the wake of Lucas van Leyden, are :

**The Master of the Crayfish** (? Frans Crabbe. Mechlin. d. 1548).

**Lambert Suavius.** Liège. Worked about 1540–59.

**Allart Claesz.** Worked about 1520–55.

**Cornelis Matsys.** Antwerp, Italy. About 1510–60.

The most important followers of Marcantonio in Italy were :

**Marco Dente da Ravenna.** Rome. d. 1527.

**Agostino de’ Musi (Veneziano).** Venice, Rome. Worked about 1514–36.

Miscellaneous Italian engravers of the XVIth century :

**Giorgio Ghisi.** Mantua. 1520–82.

**Giovanni Battista Sculptor** (also sometimes called Ghisi). Mantua. 1503–75.

**Enea Vico.** Parma. Worked about 1541–67.

**Giovanni Jacopo Caraglio.** Parma, Verona, Poland. About 1500–70.

**Giulio Bonasone.** Bologna, Rome. Worked about 1531-74.

**Agostino Carracci.** Bologna, Parma. 1557-1602.

**Francesco Villamena.** Rome. Worked about 1586-after 1622. Interesting for his use of the swelling line<sup>2</sup> (i.e. the line which expands in breadth in the middle, a means by which variety of tone could be achieved with the smallest amount of cross-hatching).

In France the earliest engravers were considerably later than in Germany, the Netherlands, or Italy. The most interesting master, with something akin to William Blake in his imagination, was **Jean Duvet** (Langres; 1485-about 1561). But the most technically accomplished French engraving of the XVIth century was the ornament work of **Etienne Delaune** (Paris, Augsburg, Strassburg; 1519-83).

The latter part of the XVIth and early XVIIth centuries was not a great period of engraving. An enormous amount was produced, particularly in small portraits and religious prints, with Antwerp as the busiest centre. A great height of technical accomplishment was achieved, and no engraving has surpassed in this respect the small plates of the brothers **Wierix** of Antwerp. Other engravers of similar talent are the members of the **Passe** family of Utrecht, two of whom, **Simon** and **Willem van de Passe**, worked in England in the reign of James I. In France, small work of a similar character, chiefly in portrait, was being done by **Pierre Woeiriot**, **Thomas de Leu**, and **Léonard Gaultier**. And in Italy excellent portraits, remarkable for the use of dotted shading, were produced by **Ottavio Leoni** (Rome; about 1576-after 1628).

Other extremely skilful engravers of about 1600, chiefly of small works, were **Theodor de Bry**, a Flemish settler in Frankfort, and **Michel Le Blon**, of Amsterdam, remarkable for prints of ornament.

It is at this period that the earliest engravings were being produced in England, 1540 being the earliest date attached to any of these, i.e. about a century later than the inception of the art abroad. Most of the early engravers in England were settlers from the Netherlands, the earliest of these, whose name is known, being **Thomas Geminus**, a surgeon attached to the court of Henry VIII (worked about 1524-70). The best of the early English engravers (chiefly of portrait and title-pages) were:

**William Rogers.** London. Worked about 1589-1604.

**Renold Elstrack.** London. Worked about 1598-1625.

**Francis Delaram.** London. Worked about 1615-24.

**John Payne.** London. Worked about 1620-48.

**William Marshall.** London. Worked about 1617-49.

**George Glover.** London. Worked about 1630-52.

Larger plates, of great bravura of style, were being produced in the Netherlands by

**Hendrik Goltzius** (Haarlem; 1558-1616), and his followers **Jan Muller** (Amsterdam; 1571?-after 1625), **Jacob Matham** (Haarlem; 1571-1631), and **Jan Saenredam** (Leyden; 1565-1607).

A great impetus to reproductive engraving was given by Rubens, who employed several engravers in his studio to reproduce his paintings. The most important of these were:

**Pieter Soutman.** Haarlem, Antwerp, Warsaw. 1580-1657.

**Lucas Vorsterman,** the elder. Antwerp, London. 1595-about 1675.

**Paul Pontius.** Antwerp. 1603-58.

**Boëtius a Bolswert.** Bolswert, Amsterdam, Antwerp, Brussels. About 1580-1634.

**Schelte a Bolswert.** Bolswert, Amsterdam, Antwerp. About 1586-1659.

The same engravers also worked largely after Van Dyck, chiefly on the portraits of his series called the *Iconography* (first published in 100 prints in 1645; compare the section on Etching, p. 33).

Other interesting Netherlandish engravers of the period were **Cornelis Visscher** (Haarlem; 1629?-58?), who frequently combined engraving and etching, and **Jonas Suyderhoef** (Haarlem; about 1610-86), the best of the reproducers of Frans Hals.

The trend of development in the history of engraving was then from Flanders towards France, where the engraving of large portraits attained its zenith in the reign of Louis XIV.

Of these portrait engravers, the chief were :

**Michel Lasne.** Caen, Paris. 1596-1667.

**Claude Mellan.** Abbeville, Paris. 1598-1688. The chief exponent of the swelling line in engraving (see note under Villamena—above, p. 24—from whom Mellan probably got his inspiration).

**Jean Morin.** Paris. Before 1590?-1650. Combined engraving with etching.

**Robert Nanteuil.** Rheims, Paris. 1623 (25?)-1678. The greatest, and most original, of the French portrait engravers.

**Gerard Edelinck.** Antwerp, Paris. 1643?-80.

**Antoine Masson.** Loury, Paris. 1636-1700.

Of the same period, and in his best work almost equal to the best of the French engravers, was the English portrait engraver **William Faithorne**, the elder (London, Paris; 1616-91).

His followers, **David Loggan** (Danzig, England; worked about 1658-90) and **Robert White** (London; 1645-1704), are worthy of mention.

**Abraham Blooteling** (Amsterdam, England; 1640-90) and **Cornelis van Dalen**, the younger, of Amsterdam (1642-65?), also showed great accomplishment.

Somewhat later, and tending to too great elaboration, are **Pierre Drevet** (Lyons, Paris; 1663-1738), and his son **Pierre Imbert Drevet** (Paris; 1697-1739).

This extremely delicate style is better suited for miniature portrait, of which **Etienne Fiquet** (Paris; 1719-94) is the best representative in the XVIIIth century.

During the XVIIIth century France still remained the chief centre of line-engraving. There were two important groups: the engravers of Watteau and his school, and the book illustrators of the latter half of the century. Of the Watteau engravers, who, like most engravers after

this period, used a combination of etching and engraving, generally beginning their work in etching, and finishing in line, the most important were :

**Benoît Audran**, the elder. Lyons, Paris. 1661-1721.

**Benoît Audran**, the younger. Paris. 1700-72.

**Jean Audran**. Lyons, Paris. 1667-1756.

**Nicolas Henri Tardieu**. Paris. 1674-1749.

**Laurent Cars**. Paris. 1699-1771.

**P. A. A. Aveline**. Paris. 1710 (1697 ?)-1760.

**C. N. Cochin**, the elder. Paris. 1688-1754.

**François Joullain**. Paris. 1697-1779.

The engravers of this school, and others who worked in the same manner (carrying on the tradition of **Gérard Audran**, of the XVIIth century), also largely reproduced paintings of the Netherlandish and other schools, and the large *Gallery Works* gave employment to many engravers all over Europe.

Of the illustrators of this the most attractive period in the history of engraved book-illustration, the chief draughtsmen-engravers were : **H. F. Gravelot** (Paris, London ; 1699-1773), **Charles Eisen** (1720-78), **C. P. Marillier** (1740-1808), and **Jean Michel Moreau** (1741-1814).

Of the engravers one might mention **C. N. Cochin**, the younger (1715-90), **Augustin de St. Aubin** (1736-1807), both of whom produced some of the best frontispiece portraits, **Noël Le Mire** (1724-1800 ?), and **Nicolas Delaunay** (1739-92).

Outside France, the best book illustration was done by **Daniel Chodowiecki** in Germany (Danzig, Berlin ; 1726-1801), and by the engravers of the school of Turner in England. But the Turner engravers also covered a wider field, being engaged on many series of plates after the master's drawings. Most of the work on their plates is etched, only the finishing touches being added with the graver ; but the conventions of the work being nearer the style of the line-engraver than the etcher, they are most naturally classed with engravers. Among the best of Turner's engravers one might mention **W. B. Cooke**, **George Cooke**, **John Pye**, **Robert Wallis**, **William Miller**, **J. T. Willmore**, and **E. Goodall**.

English illustration of the late XVIIIth and early XIXth centuries found its best designer in Thomas Stothard, and there was no lack of second-rate work by engravers, like **James** and **Charles Heath**, after the designs of W. Hamilton, Richard and Henry Corbould, E. F. Burney, Richard Westall and others, but it seldom possesses the distinction of the French school.

The most remarkable figure in English illustration is William Blake, but the majority of his illustrations are etched in relief, and referred to in consequence at the end of the section on Woodcuts ; but his illustrations to *Job* are among the greatest original line-engravings since the time of Dürer.

The XVIIIth century showed an attempt to revive reproductive engraving in the classical style. The chief representatives of this revival in France and Germany were **Jean Georges Wille** (Giessen, Paris ; 1715-1808), and **Georg Friedrich Schmidt** (Berlin, Paris, St. Peters-

burg; 1712-75); and in England, **Sir Robert Strange** (London, Paris, Italy; 1721-92), and **William Sharp** (London; 1749-1824), while another Englishman, **William Woollett** (London; 1735-85), kept almost exclusively to landscape.

The chief Italian representatives of the classic revival were **Giovanni Volpato** (Bassano, Venice, Rome; 1733-1803) and **Raphael Morghen** (Florence, Rome, Paris; 1758-1833), but their dull and lifeless system of engraving heralded the decline of the art.

The engravers of similar large line-engravings during the earlier part of the XIXth century were legion, but except for the more original development of the French school initiated by **L. P. Henriquel-Dupont** (1797-1892), and carried further by such engravers as **Claude Ferdinand Gaillard** (1834-87), there is little that invites our attention. The late **Pieter Dupont** (Amsterdam, Paris; 1870-1911) was a somewhat isolated figure in his attempt to recur to the methods of the earlier masters of original line-engraving.

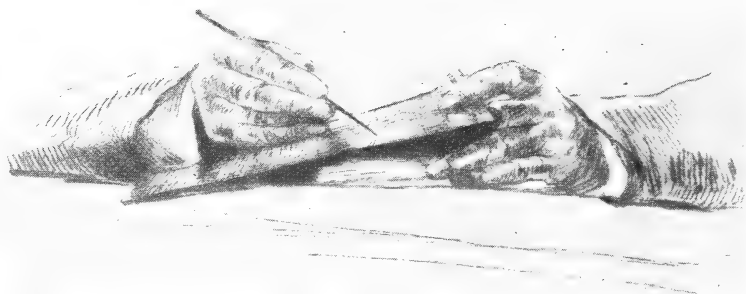


FIG. 8.—HANDS DRY-POINTING.  
From a Dry-Point by Sir Francis Seymour Haden.

## C. DRY-POINT.

### PROCESS.

In this process the line is incised or scratched on the plate by a solid piece of steel sharpened like a pencil. The method in which the dry-point is used is illustrated in a print by Sir Francis Seymour Haden (fig. 8). The point is drawn across the plate like a pencil, not, like the graver, pushed before the hand. The metal displaced from the furrow is thrown entirely to the side (not partly in front of the point as in work with the graver), and the *burr* is in consequence considerably greater. It is not for the most part scraped away as in line-engraving, as one of the special qualities aimed at by this process is the rich velvety tone added thereby to the lines. The curl of metal is naturally very delicate, and the great pressure of printing soon flattens it down, so that the real effect of a dry-point can only be seen in early impressions, fifty impressions, or little more, being often enough to weaken the effect.

The process is used so constantly in conjunction with etching, that *dry-points* are often included in the general term of *etching*, but we have described the process separately as more strictly akin to engraving.

### HISTORY.

The earliest prints which were scratched in a manner akin to that of dry-point, even if the actual dry-point tool was not used, are those of the anonymous German **Master of the Amsterdam Cabinet** (worked about 1480). He is also called the 'Master of the Hausbuch,' from his



drawings in a sketch book at Wolfegg; but as the 'Hausbuch' does not seem to be entirely the work of one hand, it is safer to keep the title, which is taken from the collection richest in the master's rare prints. **Dürer** then followed with three dry-points, one of which, the *St. Jerome in the Wilderness*, shows an appreciation of the quality of the burr hardly surpassed by Rembrandt. In Italy the method was practised, in conjunction with etching, by **Andrea Schiavone (Meldolla)**, (Sebenico, Venice; 1522?-82). The surface quality of his prints, which frequently show breakages in the original plates, has led to the surmise that he used a softer kind of metal than copper, possibly pewter.

Apart from these few names there are practically no examples of dry-point before the time of **Rembrandt** (Leyden, Amsterdam; 1606-69), who used the process sometimes alone, but more often in conjunction with etching. His earliest work was in pure etching, but from about 1640 dry-point appears with ever increasing frequency.

After Rembrandt there are only isolated examples until the revival of etching in the middle of the XIXth century. In the latter part of the XVIIIth century there were **Thomas Worlidge** (Bath, London; 1700-66) and **Benjamin Wilson** (London; 1721-88), but far more remarkable work was done in the earlier part of the XIXth century by **Andrew Geddes** (Edinburgh, London; 1783-44), **David Wilkie** (Edinburgh, London; 1785-1841), and **Edward Thomas Daniell** (1804-42). Since the middle of the XIXth century there are few of the great etchers who have not also used dry-point.

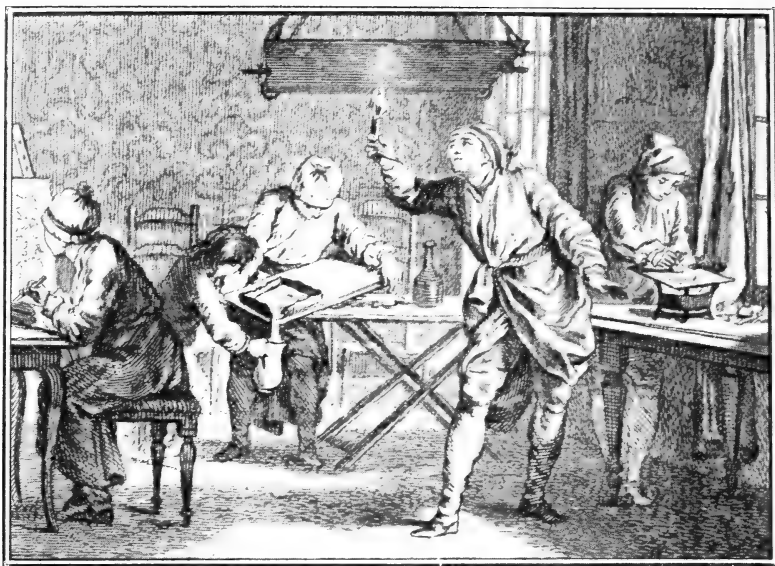


FIG. 9.—THE MAKING OF AN ETCHING.

From a Vignette in Abraham Bosse, *De la Manière de Graver*, Paris, 1758.

## D. ETCHING.

### PROCESS.

In etching, the furrow on the plate is not engraved or cut, but bitten (*etched* = *eaten*) by acid. The method is as follows: The polished surface of the plate is first covered by a thin layer of *etching-ground*, i.e. a composition of various waxes, gums and resins. The ground is generally laid by bringing a small silk bag of the wax composition into contact with the heated plate (as shown to the right of the vignette from Bosse's *Manière de Graver*, fig. 9). The melted composition is laid evenly over the surface by repeated taps with the dabber (a pad of two or three inches in diameter covered with silk or kid). The grounded plate is then held over lighted tapers and so blackened (a process seen in the centre of Bosse's vignette, fig. 9). Then with the etching needle (a steel point



FIG. 10.—THE ETCHING NEEDLE.

generally set in a handle, as in fig. 10), the etcher draws through the ground, opening up the surface of the copper where he wishes his lines to be made. Having covered the edges and the back of the plate with protecting varnish, the etcher then puts the plate into a bath of acid (generally dilute nitric), taking it out when his lightest lines are etched sufficiently deep. If greater depth is required for other parts of the

work, he will now varnish over those lines which are deep enough, and replace the copper in the bath until the requisite strength is attained (*second biting*), a process which can, of course, be repeated at the etcher's will.

If the ground is removed from the plate (for the sake of taking a proof) before the biting is completed, the ground must be re-laid with a roller, which will leave all but the lightest lines uncovered and allow for re-biting in the old lines. If the ground is left transparent, and not blackened, the etcher will be able to see his original work and continue the design.

As the ground offers practically no resistance to the needle, the etcher's hand will have the same freedom as in drawing. Etching is in consequence far less formal in its style than line-engraving, in which the command of the graver demands a rigid discipline. There is no burr in the etching, as the copper is eaten away from the furrow, not thrown out at the side, so that the etched line prints as clearly as the engraved line with its burr removed.

Apart from the freedom of the etched line, it is generally easy to distinguish it from the line obtained by the graver or dry-point, in that its ends are more nearly square. The line obtained by the graver or dry-point gradually tapers to a point as the tool comes to the surface of the copper.

A form of etching which is able to imitate the effect of a pencil or chalk drawing is called *soft ground etching*. The *soft ground*, laid on the plate, is a mixture of ordinary etching ground with tallow. The design is then finely drawn with a pencil on thin paper stretched over the surface of the grounded plate, and when the paper is removed, the ground is found to adhere where it was pressed by the pencil. The surface of the plate is thus uncovered in such a way that the biting produces the effect of the grain of pencil or chalk. It is sometimes difficult to distinguish a soft ground etching from a crayon engraving, which obtains similar effects by other means (see p. 41).

Etching is also an essential part of the process of stipple (see p. 41).

## HISTORY.

Etching probably originated in the workshops of the armourers, who used this method of decorating iron from about the middle of the XVth century, if not earlier. The earliest dated etching (1513) is by **Urs Graf** (about 1485-1529), but **Daniel Hopfer**, an armourer of Augsburg (worked about 1493-1536), probably produced some of his etchings as early as about 1500. **Dürer** was amongst the earliest to follow, but he only etched a few plates (between 1515 and 1518).

Among the XVIth century German engravers who have already been cited, **Albrecht Altdorfer** and **H. S. Beham** were also etchers.

Other German etchers of the XVIth century are the landscape artists :

**Augustin Hirschvogel**. Nuremberg, Vienna. 1503-53 ?

**Hans Sebald Lautensack**. Nuremberg, Vienna. About 1524-63.

The earliest Italian etchings, which hardly appeared before 1520, are by **Francesco Mazzuoli (Parmigiano)** (Parma; 1503?-40), and work in a somewhat similar, but more flamboyant style, in which dry-point

was also used, was done by **Andrea Schiavone** (Meldolla) (Sebenico, Venice; 1522?-82).

There are also interesting landscape etchings in the manner of Titian and Domenico Campagnola by **Giovanni Battista Fontana** and **Giulio Fontana**.

The best of the etchers of subjects of the later XVIth century in Italy was:

**Federigo Baroccio**. Urbino, Rome. 1528-1612.

The earliest of the Netherlandish masters to practise etching seems to have been **Lucas van Leyden**, who etched a few plates, in one case combining the method with his engraving, about 1520. He was followed by **Dirick Vellert** (Antwerp; worked about 1511-44), who before the identification of his name used to be called "Dirk van Star" from the mark he attached to his signature. The **Master of the Crayfish**, already mentioned among the engravers, also produced etchings.

The late XVIth century shows an interesting group of landscape etchers, of whom the most important names are:

**Pieter Brueghel**, the elder. Brussels, Italy, Antwerp. About 1525-69.

**Jan Brueghel**, the elder. Brussels, Italy, Antwerp. 1568-1625.

**Hans Bol**. Mechlin, Amsterdam. 1534-93.

**Paul Bril**. Antwerp, Rome. 1554-1626.

In France the best etching of the XVIth century is formed by the ornament, and architectural prints of **Jacques Androuet Ducerceau** (Paris, Orleans, Rome; about 1510-80).

Before coming to Van Dyck and Rembrandt we would mention a few etchers, either contemporary or at the most about a generation earlier, who escaped the influence of those great masters of the art. In Italy etching, generally characterised by light handling and a flowing style, was being done by

**Guido Reni** (Bologna; 1575-1642), **Simone Cantarini** (Bologna, Rome, Verona; 1612-48), **G. A. Sirani** (Bologna; 1610-70), **Elisabetta Sirani** (Bologna; 1638-65), **G. F. Barbieri**, called **Guercino** (Cento, Bologna; 1591-1666), **José de Ribera** (Jativa, Rome, Naples; 1588-1652), **Salvator Rosa** (Naples, Rome; 1615-73); and in landscape by **G. F. Grimaldi** (Bologna, Rome; 1606-80?).

**G. B. Castiglione** (Genoa; 1616-70) was more definitely influenced by Netherlandish etchers.

The three most individual etchers of the same period are:

**Jacques Callot** (Nancy, Rome, Florence, Brussels; 1592-1635), and

**Stefano della Bella** (Florence, Rome, Paris; 1610-64), for their numerous subjects from daily life and history, touched with the most spirited fantasy;

**Claude Gellée** (Lorrain) (Chamagne, Rome, Naples, Nancy; 1600-82), for his romantic landscapes full of atmosphere; and **Wenzel Hollar** (Prague, Frankfort, Antwerp, London, etc.; 1607-77), for his wonderful series of topographical etchings.

**Sir Anthony Van Dyck** (Antwerp, Italy, England; 1599-1641) was not a prolific etcher (he only produced nineteen portraits and two subjects), but his style of etching shows a most perfect convention, and his portraiture is incomparable in its direct vigour. His portrait etchings were probably all done between his return from Italy in 1626 and his settlement in London in 1632, and were designed to form part of his scheme of a series of portrait prints of famous men, embodied in his *Iconography*. Apart from the few original etchings mentioned (some of which were elaborated in later states by line-engravers), Van Dyck for the most part merely placed chalk or sepia drawings in the hands of his engravers. There is no record of a collected edition during Van Dyck's lifetime, the first issue with a title being that published by Gilles Hendricx in 1645. See also the section on Engraving, p. 25.

In **Rembrandt** (Leyden, Amsterdam; 1606-69) we meet the greatest of all etchers. As a painter he has rivals, but his etched work, which includes about 300 plates, shows a technical accomplishment, a variety of range, and a depth of expression which is matched in no other master. He is equally great in subjects from Scripture or daily life, portraits or landscape. In portrait his style is more varied and complex, sometimes more questionable, than Van Dyck's, but deeper in its penetrative insight.

His earlier work (from about 1628-40) is for the most part in pure etching, done with a clear open style. From about 1640 he tends to develop in etching, as well as in painting, his special methods of chiaroscuro, obtaining remarkable effects of tone, but coming dangerously near the border line that separated the etcher's from the painter's style. In his later work (after about 1650), he recurs to a bolder and more open manner of treating line, reserving the use of a close mesh of shading for the most part for his portraits. The immediate school of Rembrandt is represented in etching in **Jan Lievens** (Leyden, Amsterdam, England, Antwerp, the Hague; 1607-74), **J. G. van Vliet** (Delft, Leyden; b. about 1610), and **Ferdinand Bol** (Dordrecht, Amsterdam; 1616-80).

Of Netherlandish landscape etchers slightly senior to Rembrandt, we may mention the Fleming, **Lucas van Uden** (Antwerp; 1595-1672), who followed the tradition of Rubens, **Esaias van de Velde** (Leyden, Haarlem, the Hague; about 1590-1630), **Jan van de Velde** (Haarlem, Enkhuysen; about 1593-after 1641), **Pieter Molyn**, the elder (Haarlem, London; 1595-1661), and **Hercules Seghers** (Haarlem, Amsterdam, the Hague; about 1590-1645), who is of particular interest for his experiments in printing etchings in colour.

Of Netherlandish landscape etchers more nearly contemporary or somewhat junior to Rembrandt, the following are the most noteworthy:

**Roeland Roghman.** Amsterdam. 1597-1686.

**Antonie Waterloo.** Amsterdam. About 1609-after 1676.

**Jacob van Ruysdael.** Haarlem, Amsterdam. 1628(29)-82.

**Allart van Everdingen.** Alkmaar, Haarlem, Norway, Amsterdam. 1621-75.

**Bartholomeus Breenbergh.** Deventer, Rome, Amsterdam. 1599-before 1659. Attractive little Roman landscapes, inspired by the style of Claude and Elsheimer.

**Jan Both.** Utrecht, Rome. About 1610-52.

**Thomas Wyck.** Haarlem, Italy, London. 1616?-77.

**Reynier Nooms (Zeeman).** Amsterdam. 1623-about 1663. Excellent in architecture and shipping.

**Jan van der Heyden.** Amsterdam, Germany, England. 1637-1712.

The following etchers combined landscape with animal subjects :

**Simon de Vlieger.** Rotterdam, Delft, Amsterdam, Weesp. 1601?-53.

**Aelbert Cuyp.** Dordrecht. 1620-91.

**Paul Potter.** Delft, the Hague, Amsterdam. 1625-54.

**Adriaen van der Velde.** Amsterdam. 1635(36)-72.

**Pieter van Laer.** Haarlem, Rome. Before 1600-about 1650.

**Nicolaes Berchem.** Haarlem, Italy, Amsterdam. 1620-83.

**Carel du Jardin.** The Hague, Amsterdam, Italy. 1622-78.

The most noteworthy Netherlandish etchers of subjects from peasant life are :

**Adriaen van Ostade.** Haarlem. 1610-85.

**David Teniers, the younger.** Antwerp, Brussels. 1610-90.

**Cornelis Bega.** Haarlem. 1620-64.

**Cornelis Dusart.** Haarlem. 1660-1704.

The best of the later Dutch portrait etchers is **Carel de Moor** (Leyden; 1656-1738).

In the XVIIIth century Dutch etching was for the most part a weaker imitation of the ideas and style of the XVIIth century, and do not call for special mention. The centre of the art passed from the Netherlands to Italy, and most attractive work in a delightful open-air style, full of light, was being done by :

**Giovanni Battista Tiepolo.** Venice, Würzburg, Madrid. About 1696-1770.

**Giovanni Domenico Tiepolo.** Madrid, Venice, Brescia. 1726-1804.

**Antonio Canale (Canaletto).** Venice, Rome, London. 1697-1768.

**Bernardo Belotto.** Venice, Dresden, Vienna, Warsaw. About 1724(20?)-1780.

The most remarkable and monumental work of architectural and topographical etching was achieved by **Giovanni Battista Piranesi** (Venice, Rome; 1720-78), whose ideals were carried into the XIXth century by his son, **Francesco Piranesi** (Rome, Paris; 1748(56?)-1810), and by **Luigi Rossini** (Rome; b. about 1790).

The XVIIIth century also saw the development of a school of caricature and satire in etching, in which Italy and England produced the best representatives :

**P. L. Ghezzi.** Rome. 1674-1755.

**William Hogarth.** London. 1697-1764. Worked even more in line-engraving than in etching, but artistically his better work is in his pure etchings.

**Thomas Rowlandson.** London. 1756-1827.

**James Gillray.** London. 1757-1815.

**George Cruikshank.** London. 1792-1878.

In France a few attractive etchings were produced by **Antoine Watteau** (Valenciennes, Paris; 1684-1721), while Watteau's drawings were etched by his pupil, **François Boucher** (Paris; 1703-70), who also produced some original etchings. **Count Caylus** (Paris; 1692-1765) was chief among amateurs to encourage the reproduction of master-drawings by the process of etching.

**Charles Natoire** (Nîmes, Paris, Rome; 1700-77), **Charles Hutin** (Paris, Dresden; 1715-76), carried on the same traditions, while even more exquisite work was done by **Jean Honoré Fragonard** (Grasse, Paris; 1732-1806). Apart from these masters there was too much archaism among the French etchers of the period, and in landscape the most eclectic of these was **J. J. de Boissieu** (Lyons; 1736-1810), who is more individual in his etchings of *genre*.

Several of the most interesting English etchers of the late XVIIIth and early XIXth centuries have already been mentioned in the section on Dry-point. Of etchers in pure line or soft ground, the most noteworthy are the landscape painters **John Crome** (Norwich; 1768-1821), **J. S. Cotman** (Norwich, Yarmouth, London; 1782-1842), and **J. M. W. Turner** (London; 1775-1851). Turner's great achievement in etching was the *Liber Studiorum*, a series of plates designed to illustrate the various styles of landscape, and published between 1807 and 1819. The undertaking was never completed, only 71 out of a projected 100 plates having been published. Turner etched all the plates in outline, and generally left it to other engravers (such as **Charles Turner**, **William Say**, and **Thomas Lupton**), to finish the subject in mezzotint in imitation of his monochrome drawings in pen and wash.

Etchers and dry-point artists such as Turner, Crome and Geddes, contributed greatly towards the revival of original etching which has characterised the latter half of the XIXth century. France and England have hitherto unquestionably divided the field of honour between them in this revival.

**Paul Huet** (Paris; 1804-69) etched some striking landscape plates, in a manner somewhat transitional between the old and the modern style.

The best of the French etchers of the revival are:

**Théodore Rousseau.** Paris, Barbizon. 1812-67.

**Charles Jacque.** Paris, Barbizon. 1813-94.

**Charles François Daubigny.** Paris. 1817-78.

**Jean François Millet.** Paris, Barbizon. 1814-75.

**Camille Corot.** Paris. 1796-1875.

**Charles Meryon.** Paris. 1821-68. Incomparable as an etcher of architecture, and a great influence on more recent etching.

**Camille Pissarro.** St. Thomas (Antilles), Normandy, Paris. 1830-1903.

**Edouard Manet.** Paris. 1832-83.

Two artists of the transitional period of etching in England may be mentioned, **Samuel Palmer** (London; 1805-81), inspired with the idyllic sentiment of Blake, and **Charles Keene** (London; 1823-91), who, apart from his humorous drawings, is the author of a few landscape and figure plates etched in a most delicate and expressive line.

A link between the French and English schools is given by **Alphonse Legros** (Dijon, Paris, London; 1837-1911), who was for many years head of the Slade school in London, and is one of the greatest etchers of modern times, whether in landscape, subject, or portrait.

**James Abbott McNeill Whistler** (U.S.A., Paris, London; 1834-1903) worked for the most part in London, but he more strictly belongs to the American than to the English school. He was an artist of less depth of feeling than Legros, but was unsurpassed for the originality of his style and the magic touch of his needle. Of less rank than either of the preceding, but still among the greater etchers of landscape, is **Sir Francis Seymour Haden** (London, Woodcote; 1818-1910).

Among living etchers there are several artists whom one would place among the great masters of etching, and the art has never been more flourishing than at the present day, but to pursue the subject further would exceed the limits of our Guide.



## E. MEZZOTINT.

### PROCESS.

This and the following processes (F and G) may be termed tone-processes, as they aim at rendering surfaces of tone rather than pure line. The other processes of engraving often attempt effects of tone, but the woodcut, line-engraving, dry-point, or etching, which conceals its line in a close web of shading in which the quality of the line is lost, follows a questionable convention. Lithography, on the other hand, can be used with equal effect and justification, either as a line- or a tone-process.

Mezzotint is a negative process, inasmuch as the engraver works at

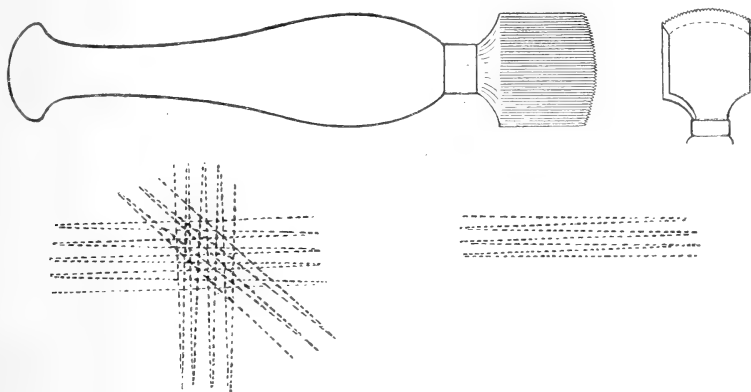


FIG. 11.—THE MEZZOTINT ROCKER, and lines showing the 'ways' in which the ground is laid.

his design from a black ground to the high lights, not from a white ground to the black lines or shadows. The surface of the plate is first roughened all over in such a way that if it were filled with ink it would print a deep black. This roughening, or grounding, of the surface of the plate is generally obtained by the tool called the *Rocker*, of which the essential feature is a curved, serrated edge with cutting teeth, of thread smaller or larger (ranging from about 50–100 teeth to the inch) according to the quality of grain required (see fig. 11). This tool is held with its blade at right angles to the plate, and the cutting edge rocked regularly



FIG. 12.—THE MEZZOTINT BURNISHER.

over the surface of the plate at several angles, causing a uniform indentation of the plate, with a burr to each indentation. The hollows hold the ink, and the burr adds the rich velvety quality characteristic of mezzotint. The engraver then removes the burr with a *mezzotint scraper*

where he wishes to obtain his lighter portions, and if he desires a high light he will polish the surface of the plate with a *mezzotint burnisher* (fig. 12), so that no ink at all can be retained.

The *scraping* is so important a feature in the process that a mezzotint is often described as scraped rather than engraved. And one of the German terms for the process is *Schabkunst* (i.e. the scraping-art).

As the true quality of mezzotint, like that of dry-point, depends largely on the delicate *burr*, it follows that as few rich impressions can be obtained from a mezzotint as from a dry-point.

Some of the earlier mezzotinters seem to have grounded their plate by means of a toothed wheel, which was called the *engine*, a large form of the roulette genus (see below, fig. 13), and to have worked in the positive, not the negative manner (i.e. obtaining their grain on the plate only where they wished their blacks, not completely grounding the plate and scraping away the whites). The sweeping curves seen on Prince Rupert's *Great Executioner* may have been obtained by attaching the *engine* to the end of a pole and moving it in curves on a pivot.

### HISTORY.

The art was discovered by **Ludwig von Siegen** (Utrecht, Cassel, Amsterdam, Ratisbon, Mayence, etc.; 1609–after 1676), an amateur who for some time was in the service of the Landgravine Amelia Elizabeth of Hesse, whose portrait is the earliest dated mezzotint (1642). He was followed by a far more distinguished amateur, **Prince Rupert** (1619–82), who dated his plates between 1657–59. His large plate of the *Great Executioner* (after a picture by Ribera, at Munich) is one of the most striking of all mezzotints, executed in a most vigorous manner, with sweeping curves in its grain. In spite of the seeming complexity of mezzotint, amateurs are often extremely successful in the process, avoiding the smaller and more perfect grain which tempts the professional to dulness.

Among the earliest exponents of the art were **T. C. von Fürstenburg**, an amateur and ecclesiastic (Mayence; 1615–75), **Jan Thomas** (Ypres, Antwerp, Italy, Germany, Vienna; 1617–73), **Wallerant Vaillant** (Lille, Middelburg, Antwerp, Paris, Amsterdam; 1623–77), **Bernard Vaillant** (Lille, Rotterdam; 1625–74), **Gerard Valck** (Amsterdam, England; 1626–1720), **Abraham Blooteling** (Amsterdam, England; 1640–90), **Jan van Somer** (Amsterdam; 1641–1724 ?), **Paul van Somer** (Amsterdam, Paris, London; about 1649–94), **Louis Bernard** (Paris; worked about 1680–1700), **Jan Verkolje** (Delft, Amsterdam; 1650–93), **Nicolaas Verkolje** (Delft, Amsterdam; 1673–1746), and **Cornelis Dusart** (Haarlem; 1660–1704).

It will be seen that several of these foreign artists worked in England, and by the end of the XVIIIth century mezzotint had become so popular in England that it was soon generally known as *la Manière Anglaise*, and justified its title by a record which gives by far the greatest honours in the art, apart from its discovery, to English masters.

From the first it was largely used for the reproduction of painting, for which its tonal quality was so perfectly adapted. In the earlier period of English mezzotint (the period of Lely, Kneller, and their followers in the early XVIIIth century), the most interesting masters are:

**William Sherwin.** Worked about 1669–1714.

**Francis Place.** York, London. 1647–1728.

**Isaac Beckett.** London. 1653-1719.

**William Faithorne**, the younger. London. 1656-about 1710.

**George White.** London. About 1671-1732. Interesting for his combination of the etched line with mezzotint.

**John Smith.** London. About 1652-1742. The most accomplished and prolific mezzotint engraver of this earlier period. Not to be confused with John Raphael Smith, the best mezzotinter of the Reynolds period.

**Peter Pelham.** London, Boston (U.S.A.). About 1684-1751. Chiefly of interest for having introduced mezzotint into America.

**John Faber**, the elder. The Hague, London. About 1660-1721.

**John Faber**, the younger. London. About 1695-1756.

**John Simon.** France, London. 1675-1751.

Of the engravers who worked after Reynolds and his contemporaries, the following may be cited :

**James McArdell.** Dublin, London. About 1729-65.

**Richard Houston.** Dublin, London. About 1721-75.

**Edward Fisher.** Ireland, London. 1730-about 1785.

**John Dixon.** Ireland, London. About 1730-after 1800.

**James Watson.** Ireland, London. 1739?-90.

**William Pether.** Carlisle, London, Bristol. About 1738-1821.

**Richard Earlom.** London. 1743-1822.

**John Finlayson.** London. About 1730-76.

**Robert Dunkarton.** London. 1744-before 1817.

**Valentine Green.** London. 1739-1813.

**Thomas Watson.** London. 1743(50?)-81.

**William Dickinson.** London, Paris. 1746-1823.

**John Jones.** London. About 1745-97.

**John Raphael Smith.** Derby, London. 1752-1812. Like the rest of the mezzotinters his work was largely reproductive, but he was also an original draughtsman and a painter of some distinction.

**John Dean.** London. About 1750-after 1805.

**James Walker.** London, St. Petersburg. 1748-1808.

**C. H. Hodges.** London, Amsterdam. 1764-1837.

**William Doughty.** York, London. d. 1782.

During the XVIIIth century two foreigners, who visited England, did good work, i.e. **J. G. Haid** (Augsburg, London, Vienna; 1710-76) and **Johann Jacobé** (Vienna, London; 1733-97).

Another foreign visitor, **J. C. Le Blon** (Frankfort, Rome, Amsterdam, London, Paris; 1667-1741), made the first experiments in the use of the three-colour process for mezzotint plates. He found his chief imitators in France in the various members of the family of **Gautier D'Agoty**.

In the XIXth century the traditions of the best contemporary engravers of Reynolds were carried on by :

**William Ward.** London. 1766-1826.

**James Ward.** London. 1769-1859.

**George Dawe.** London, St. Petersburg. 1781-1829.

**Charles Turner.** London. 1774-1857.

**S. W. Reynolds, the elder.** London, Paris. 1773-1835.

Others, such as **William Say**, **George Clint**, **Thomas Lupton**, **Henry Meyer** and **Thomas Hodgetts**, did good work, but seldom up to the level of the preceding group. Say is interesting, but hardly praiseworthy, for his introduction of the use of the steel plate.

Later mezzotinters, of whom **Samuel Cousins** (1801-87) and **William Walker** (1791-1867) may be mentioned, often combined line or stipple with mezzotint, and their plates almost invariably lack the richer quality of the earlier mezzotinters. The influence of Lawrence, and the attempt to reproduce his rather metallic brilliance of tone, probably helped to weaken the mezzotinters' style.

The most characteristic work of the XIXth century are landscape mezzotints by and after Turner (chiefly for his *Liber Studiorum*, to which we have referred in the section on Etching), and a wonderful series of plates after Constable by **David Lucas** (1802-81). Some of the best modern work, e.g. by **Seymour Haden**, has been in the field of original landscape, and now that photogravure has done its best to oust mezzotint from the reproduction of pictures, though it can never achieve a fraction of the rich quality of mezzotint, it is in original design, whether in landscape or portrait, that one hopes to see the further development of the art.

## F. STIPPLE, CRAYON, AND THE DOT-PROCESSES.

## PROCESS.

The essence of *stipple-engraving* is the rendering of tone by a conglomeration of dots or short strokes (flicks). The plate is first covered with the ordinary etching ground, and the contours and a light indication of the main shadows dotted through the ground with the etching needle (or with one or two bound together), or with the simple *roulette* (a toothed wheel as shown in fig. 13, *a*). This preliminary part of the work is bitten with the acid. The subject is then completed and given brilliance by dotting or flicking directly on the surface of the plate with the point of the stipple-graver, i.e. a graver specially curved for use in this process. Roulettes (of various shapes) may also be used directly on the surface of the plate.

*Crayon (or chalk) engraving* is closely allied to stipple, but it aims at rendering the quality of the lines of a chalk drawing, rather than mere surfaces of tone. Various forms of roulettes with grain corresponding to the texture of chalk, and the *mace-head* or *mattoir* (an instrument with

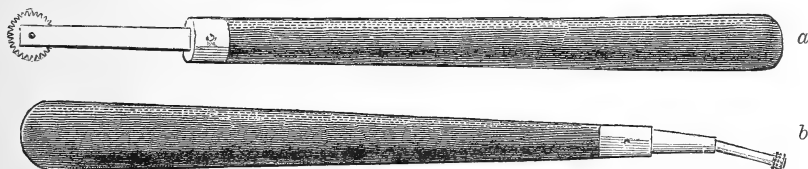


FIG. 13.—ROULETTES. (*a*) The simple Roulette; (*b*) the Matting-wheel.

butt-end provided with irregular points), as well as etching needles, are used through the ground to prepare the plate for biting; and as in stipple the graver, dry-point and roulettes are also used directly on the surface. Stipple and crayon-engraving are of course constantly combined, the face of a portrait often being finished in pure stipple like a miniature, while the body and accessories are lightly sketched in the crayon manner.

*Pastel-engraving* is essentially the same process as crayon-engraving, but the effect of a coloured pastel is obtained by printing from several plates (see below, Colour-prints; p. 50).

Long before the discovery of stipple or crayon-engraving, a method, analogous in its effects, that of *punch-engraving*, had been used chiefly by goldsmiths and engravers of ornaments. The *dotting-punch* with a single point (a tool used constantly by the map-engraver), is generally set in a handle, and worked by pressure of the hand alone. Punches, particularly those of the broader heads, with or without hatched or grained ends, are also used with the hammer.

## HISTORY.

The earliest indications of methods comparable to stipple (though without the aid of etching, an essential part of stipple proper), is seen in the engravings of **Giulio Campagnola** (about 1482–after 1514; see Line-

engraving), **Marcello Fogolino** (worked about 1520-40), and **Ottavio Leoni** (about 1576-after 1628). But their work was not actually done by dotting, but by means of short flicks with the point of the ordinary graver.

Pure dot-work, either with the hand-punch or with the hammer and punch, was used by an interesting group of German and Netherlandish goldsmith engravers (chiefly of ornament) in the late XVIth and early XVIIth century, of whom the most important were **J. Kellerdaller** (I and II), **Daniel Kellerdaller**, **Bernhard Zan**, **Hieronymus Bang**, **Paul Flindt**, and **Franz Aspruck**. It was a method which goldsmiths used in the Middle Ages, and several modern impressions exist from early plates not originally intended for printing.

The immediate forerunner and constant companion of stipple was crayon-engraving, which was discovered about the middle of the XVIIIth century in France by **J. C. François** (Nancy, Lyons, Paris; 1717-69), and developed almost contemporaneously, and carried to greater perfection by **Gilles Demarteau** (Liège, Paris; 1722-76), and **Louis Marin Bonnet** (St. Petersburg, Paris; 1735(43 ?)-1793). Bonnet excelled in printing in colours from numerous plates in imitation of pastel.

The head of the school of stipple-engraving in its most limited signification was **Francesco Bartolozzi** (Florence, Venice, Rome, London, Lisbon; 1728-1813), an Italian who settled in London in 1764. Bartolozzi and most of the stipple-engravers found their truest vocation in engraving the drawing-room fancies of artists, such as G. B. Cipriani and Angelica Kauffmann. Other designers of the period who are largely represented in stipple-engravings are Richard Cosway, Thomas Stothard, E. F. Burney, R. Westall, W. Hamilton, Francis Wheatley, Bigg and Singleton.

Stipple, like mezzotint, has been largely practised by English artists, and by foreigners working in England. The following are some of the principal names :

**W. W. Ryland.** Paris, London. 1732(38 ?)-1783.

**Thomas Burke.** Dublin, London. 1749-1815.

**Charles Knight.** London. 1743 ?-after 1825.

**Thomas Cheesman.** London. 1760-after 1834.

**Luigi Schiavonetti.** Bassano, London. 1765-1810.

**P. W. Tomkins.** London. 1759-1840.

**Charles Wilkin.** London. 1750-1814.

**Caroline Watson.** London. 1761 ?-1814.

**Anthony Cardon.** Brussels, London. 1772-1813.

**John Condé.** London. Worked about 1785-93.

**J. P. Simon.** London. Before 1750-about 1810.

**Elias Martin.** Stockholm, London. 1739(40)-1818.

Some of the strongest stipple and crayon-engravings were produced by the mezzotint-engravers already cited, of whom we may mention **John Jones**, **J. R. Smith**, **William Ward**, and **William Walker**.

A few miniature portrait engravings were produced in Paris between 1765-71 in a curious mixed manner, allied to stipple, by **J. B. Grateloup** (Dax, Paris; 1735-1817). As dotting (with the needle through the etching-ground, or directly on the plate with the dry-point), and roulette work are the characteristic elements of his process, he is included in this section. But he may also have combined the use of aquatint, and the mezzotint-scraper.

During the earlier part of the XIXth century stipple was considerably used in combination with line-engraving or mezzotint, but the art has now practically died out. As long as artists keep to the lighter themes the delicate process of stipple is charmingly responsive. While numerous attempts (seldom successful) are made in colour mezzotint, we wonder that no artist recurs to the process which is of all the most perfectly adapted for clear colour-printing.

## G. AQUATINT.

### PROCESS.

Tone-effects, of a more transparent quality but of less depth and richness than mezzotint, are obtained by the method of aquatint. It gives the nearest imitation that prints can offer of the quality of the washes of water-colour. As the name implies, the tone or *tint* is obtained by biting with the acid (*aqua fortis*). The essential element of the process is the partial protection of the surface of the plate with a porous ground, through whose pores or reticulations the acid can bite.

There are two methods of laying the ground forming (a) the *dust ground*, (b) the *spirit ground*.

In the first method (a) powdered asphaltum or resin is placed in a box and blown into a cloud by bellows, or by a fly-wheel worked from without; the plate is then put into the box to collect the dust which descends in a regular coating on to its surface. This porous coating, or ground, is then fixed to the surface by heating the back of the plate. By the second method (b) resin is dissolved in spirits of wine, and the solution spread evenly over the surface of the plate. As evaporation takes place the resin will be left in a grain on the surface.

The porous ground being laid, an even tint, varying according to the grain or reticulation of the ground, could be obtained by biting with the acid. But before biting, the etcher will cover those parts of the ground where he wishes to obtain pure white with protecting varnish, and allow the rest of the plate to be bitten to the depth of his next lightest tone. He will then cover with varnish in the same way such parts of the plate as he wishes to remain in this light tone, biting again, and varnishing again in stages, until the parts which have been constantly bitten are, of course, his darkest portions.

A grained surface similar to aquatint can also be produced by other means. One of these (*sand-grain*) is obtained by sand-paper, pulled through the press in conjunction with the copper plate, whose surface it roughens. By another method (*sulphur-tint*) powdered sulphur is dusted on to the surface of the plate which has been spread with a layer of oil. The particles of sulphur gradually corrode the surface in a delicate grain. Effects of wash can also be achieved by leaving acid in patches on the surface of the plate. For the sake of convenience these analogous methods, by which similar effects to aquatint are produced, are classed under the same heading.

### HISTORY.

Jean Baptiste Le Prince (Metz, Paris, Russia; 1734-84), whose earliest dated aquatints belong to the year 1768, is generally regarded as the inventor of the process. Ploos van Amstel (Amsterdam; 1726-98), in his *Imitations of old master drawings*, L. M. Bonnet (see section on Stipple, p. 42), and P. G. Floding (Stockholm, Paris; 1731-91), were producing plates in a style bordering on aquatint some years before this date; but their usual methods show a considerable



admixture of roulette work and other elements of the process of crayon-engraving.

One of the earliest and most successful followers of Le Prince, **François Janinet** (Paris; 1752-1813), also frequently combined roulette work with aquatint. He was the first to introduce the printing of aquatints in colour, achieving clear effects by the use of a large number of plates for the different colours. But he was not so good an artist as **P. L. Debucourt** (Paris; 1755-1832), a master of society *genre*, who was equally successful as a colour-printer, and purer in the use of aquatint.

Other Frenchmen worthy of notice are **C. M. Descourtis** (1753-1826), **P. M. Alix** (Paris; worked about 1790-1817), and **A. F. Sergent-Marceau** (Chartres, Paris, Nice; 1751-1847), the last two being chiefly of interest for their portraits.

Good reproductions of wash drawings, for which the transparent quality of aquatint was so perfectly fitted, were done in Germany in the late XVIIIth century by **J. G. Prestel** and his wife, **Maria Catharina Prestel**, the latter working after 1786 in London. The process was introduced into England by the water-colour painter, **Paul Sandby** (1725-1809), who used it in several series of views from 1775 onwards. He appears to have been the first to use the spirit-ground, and to have christened the process *Aquatinta*. The earliest French aquatinters more often used the title *gravure au lavis*. Sandby was followed by many of the other water-colour artists, who found this process of great practical use in the drawing-books so popular at this period. Apart from the drawing-books the most important work was done by **Thomas Malton**, the younger (Dublin, London; 1748-1804), **Thomas Daniell** (1749-1840) and **William Daniell** (1769-1837). A large number of less interesting aquatinters were kept employed by Rudolf Ackermann, who published many books with illustrations after Rowlandson and others between about 1808-34. The earliest plate of Turner's *Liber Studiorum* was etched in aquatint by **F. C. Lewis** (1779-1856), but Turner was apparently dissatisfied with the result, and thereafter kept entirely to mezzotint, which is so much richer in its quality; but aquatint is often found on the *Liber* plates in conjunction with mezzotint, to express the more transparent tones of sky, etc.

By far the greatest artist to make constant use of the process is the Spanish satirist and painter, **Francisco Goya** (Fuente de Todos, Saragossa, Rome, Madrid, Bordeaux; 1746-1828). His earliest plates are in pure etching, but practically all his finest works, e.g. the *Caprichos*, the *Desastres de la Guerra*, the *Proverbios*, and the *Tauromáquia* are in aquatint. No etcher has shown a more perfect command of the subtle quality and variety of tone to be achieved by aquatint.

Aquatint, and allied methods such as sand-grain, or sulphur-tint, are frequently used by modern etchers, but there are no other names, until these living artists, which call for special mention.

## H. LITHOGRAPHY, AND SURFACE PRINTS FROM METAL PLATES.

### PROCESS.

A lithograph is a surface print taken from stone. The essence of the process is the natural antipathy of grease and water, and the readiness of certain kinds of stone to absorb grease and water equally. The stone most used, on account of the uniform surface quality it offers, is quarried at Kelheim and Solenhofen, in Bavaria. By the most direct method, the artist draws his design on the polished surface of the stone in specially-prepared lithographic chalk of a greasy substance. Preparatory to printing, the stone is washed with water, which is only retained by the stone in the parts not touched by the chalk. The stone is then inked with the roller, the ink being rejected by the damp stone and only adhering to the parts covered with the greasy chalk. The paper being laid on the stone, and covered, is passed through the scraper press to yield the impression.

The main principle being adhered to, a great variety of effects can be obtained beside that of the ordinary texture of a chalk drawing. The chalk might be laid over the whole, or a considerable part of the surface, either directly or with the aid of a stump. This black ground might then be scraped like a mezzotint, to bring out the high lights (*scraped lithograph*), or the white lines might be drawn with a point. Another characteristic method is to make a solution of the lithographic chalk and lay this on with a brush. The effect will be that of a washed drawing (*lithotint*), and here too, if required, white lights can be worked out by the scraper or point. The solution might also be used with the pen, to give the appearance of a pen drawing.

Stone is not the most essential factor in the process. Various metals, such as zinc or aluminium, have been found to answer the requirements which render surface printing possible. If zinc is used, one sometimes uses the term *zincography*, and a general term, *surface printing on metal*, might be applied, to include other metals, but it is simplest to include all under the title lithography, just as metal-cuts are classed with woodcuts.

A metal surface generally needs washing in special solutions, to make it more readily absorbent, and even then is seldom so uniform in its work as the best stone. Zinc plates have also been made, coated with a special composition corresponding to the stone, but they have not been largely used.

We have described the drawing as being done directly on the stone. It can also be done on specially prepared paper, and then transferred to the surface of the stone in the press. The essential element of transfer paper is a gum surface easily soluble in water. The drawing being made on this surface with the lithographic chalk, the paper being placed drawing downwards on the stone, thoroughly damped, and put through the press, the chalk is detached from the paper and adheres to the stone.

It is often difficult to say from the inscriptions on lithographs whether the artist has done the drawing on stone or only a drawing for transfer. It is not a very important distinction, in fact, considerably less important than the distinction between designer and cutter of black-line woodcuts, where (as with Dürer) we frequently only know the designer and not the cutter. The lithographic printer, even granted that he makes the transfer, is of little interest in the study of the subject on the artistic side.

## HISTORY.

There is one great exception to our last statement, i.e. the case of **Aloys Senefelder** (Munich, Offenbach, Vienna, London, Paris; 1771-1834), the inventor of the process, who was himself not an artist, but a lithographic printer. His own book on lithography, published in German in 1818, and in English and French in 1819, provides us with the fullest details about the early development of the process. He was an unsuccessful actor and playwright, who made experiments in printing from stone, partly for the purpose of printing his own works. In his earliest experiments he etched the stone, obtaining relief prints analogous to Blake's relief etchings on metal. But in 1798 his experiments, or a happy chance, led to the discovery of the process of surface-printing, in which no relief or intaglio was required. Patents were obtained in the succeeding years, either in his own name or in the name of his partners of the family of **André**, of Offenbach, at Munich, Vienna, Berlin, London, and Paris, and in 1809 Senefelder was given an official position as Inspector of the Royal Lithographic Establishment in Munich, but he never reaped any steady success from his invention. Music printing was one of the chief uses of the process, and artistic reproductions, such as the *Prayer Book of Maximilian I*, drawn for lithography by **J. P. Strixner** (Munich, Stuttgart; 1782-1855), and printed by Senefelder in 1808, were rare in the early years of the XIXth century.

Between 1820-50 the reproduction of pictures and drawings by lithography was successfully undertaken on an ambitious scale by **J. P. Strixner**, **Ferdinand Piloty** (Munich; 1786-1844), **Joseph Löhle** (Munich; 1807-40), and **Franz Hanfstaengl** (Munich, Dresden; 1804-77), chiefly in works on the Munich and Dresden galleries. Since that time the art has been largely used for reproduction, particularly in colour, but our interest here is almost exclusively with the process as a medium for original work.

Both in England and in France the process was taken up keenly by amateurs as an easy means of multiplying their drawings. A large number of these amateur works are seen in the series entitled *Specimens of Polyautography*, first published in 1803, of which a copy is preserved in the Print Room. A few good artists, such as **Thomas Stothard** and **William Blake**, contributed examples to the series.

In France amateurs were interested in the art by **Baron Vivant-Denon** (Paris; 1747-1825), and **General Baron L. F. Lejeune** (1776-1848), and French masters in general were earlier to appreciate the artistic possibilities of the process than the inventor's followers in Germany. And the lithographic printers, **Gottfried Engelmann** of Mühllhausen, who chiefly worked in Paris (1788-1839), and **Charles Hullmandel** in London (1789-1850), who was also a landscape draughtsman of some merit, both did much to encourage the art by their writings as well as their commercial activity.

Landscape and architectural draughtsmen found their best opportunity in Baron Taylor's *Voyages Pittoresques et Romantiques dans l'ancienne France*, a state-aided undertaking, which was published in parts during a period of over forty years after 1820. **Emile Jean Horace Vernet** (1789-1863), **Jean Baptiste Isabey** (1767-1855), and **L. G. Eugène Isabey** (1803-86), were among the earliest French artists who contributed, and England was well represented in **Samuel Prout**

(1783-1852), **James Duffield Harding** (1798-1863), and superlatively in **R. P. Bonington** (1801-28).

Of the best French artists of the first half and middle of the XIXth century who designed for lithography, the following may be mentioned:

**Antoine Charles Horace Vernet** (called **Carle Vernet**). 1758-1836.

**Nicolas Toussaint Charlet**. 1792-1845.

**Théodore Gericault**. 1791-1824.

**Eugène Delacroix**. 1798-1863.

**Eugène Lami**. 1800-90.

**Achille Devéria**. 1800-57.

**Auguste Raffet**. 1804-60.

**Guillaume Sulpice Chevallier** (known as **Gavarni**). 1804-66.

**Honoré Daumier**. 1808-79. One of the greatest draughtsmen of the XIXth century, and best known by his caricatures in lithography.

Of the next generation the most original artists in France, who practised the art, were **Edouard Manet** (1832-83), and **Fantin-Latour** (1836-1904), the latter especially notable for his use of the scraper.

In Germany the long-lived **Adolf von Menzel** (1815-1905) produced a considerable number of lithographs, his most interesting work being the *Versuche auf Stein mit Pinsel und Schabeisen*, 1851, showing scraped work in lithotint.

The great Spanish satirist, **Francisco Goya**, who has already been mentioned in the section on Aquatint, is also the author of a few lithographs. His four *Bull-fights*, issued at Bordeaux in 1815, are among the greatest achievements in lithography.

To recur to lithography in England, the following names are the most interesting in the work of the earlier half and middle of the XIXth century:

**James Ward**. 1769-1859. Animal subjects.

**John Doyle**. 1797-1868. For a lengthy series of political caricatures signed H. B.

**George Cattermole**. 1800-68.

**T. S. Boys**. 1803-74.

**Sir David Wilkie**. 1785-1841.

**W. J. Müller**. 1812-45.

**Joseph Nash**. 1809-78. Original, and also after Sir David Wilkie and W. J. Müller.

**J. F. Lewis**. 1805-76.

**R. J. Lane**. 1800-72. Interesting for his portraits.

**John Linnell, Junr.** Worked about 1843.

The best work produced in England during the XIXth century is that of the famous etchers **Legros** and **Whistler**. And the name of **Thomas R. Way** (1861-1913) cannot be forgotten, not so much for his own lithographs, as for the interest in the art which he, and his father Thomas Way, helped to excite in others, notably in Whistler. Many good living artists are now using the process for their original work and finding new possibilities in this medium, and none of the arts of making prints is more alive to-day than lithography.

## J. MISCELLANEOUS PROCESSES WHICH CANNOT BE CLASSED UNDER ANY OF THE ABOVE HEADINGS.

We will only indicate here the nature of two processes, leaving other methods, only very occasionally used, to the descriptions attached to the prints exhibited.

An impression can be taken from a plate which has been painted (either positively or with the lights scraped from a dark ground) in oil-colours. As only one impression can be pulled, such prints are called monotypes. An apology for the existence of a plate from which only one impression can be taken is found in the peculiar quality of the texture attained by the transfer of the oil-colour to paper in the press, or by hand pressure. The process has been chiefly developed by modern artists, but **G. B. Castiglione** (1616-70) and **William Blake** (1757-1827) are among the few who have practised it in earlier centuries.

### GLASS-PRINTS.

Several etchers of the XIXth century, more particularly **Corot** (1796-1875), **Daubigny** (1817-78), **Théodore Rousseau** (1812-67), and **J. F. Millet** (1814-75), have used a special method of producing prints which closely resemble etchings in effect; but examination will show that the line has no relief, and no plate-mark is visible. Their method was to use sensitised photographic paper and expose this to the sun beneath glass plates prepared by the artist to act as a photographic negative. The surface of the glass would be covered with an opaque ground, and the artist would remove the ground with a point, leaving the glass transparent where the lines are to print black.

[The name of this process must not be confused with *glass coloured prints*, which show a method of mounting prints, generally mezzotints, on glass, rubbing away the paper, and colouring at the back. It was a frequent practice in England in the XVIIIth century.]

## COLOUR-PRINTS.

There are two methods of colour-printing—

- I. *From the single plate.*
- II. *From various plates, blocks, or stones.*

I. The first method (chiefly confined to intaglio prints) practically implies the painting of the plate between each printing, rag-stumps ('*dollies*' or '*poupées*') being used to fill the lines with the different colours. It was used to a certain extent by XVIIth century line-engravers (e.g. by **Joannes Teyler**), but it was far more generally adopted by the stipple-engravers, and, though less often, by the mezzotint-engravers.

II. The second process, the use of several plates, blocks, or stones, is more truly a printer's method, as once given the proper tint for each printing, the printer should be able to repeat the impression without the direct intervention of the artist. Whether the printer be a professional printer, or the artist himself, it would in either case be possible to obtain greater uniformity in the effect of different impressions, than by the single plate method.

We have already described its use in relation to wood-blocks (woodcut section, p. 13). The greatest care is needed to secure the exact register of the different blocks or plates by means of marking the points which correspond in the corners of each plate. Pin-holes in the corners of a colour impression, or rather round marks printed from the holes, are indications of the method of obtaining the perfect register. This method of printing from several blocks, plates, or stones, is largely used in woodcuts, crayon- and pastel-engravings, and lithography. Also to a certain extent by etchers.

A special process by which the three cardinal colours were combined in the impression to render the complete gamut of colour has also been used in mezzotint (first by **J. C. Le Blon**). The '*three-colour*' process depended on Newton's theory that the whole range of colours is composed of the three cardinal colours, *blue*, *yellow* and *red*. The idea of the colour-printer is to analyse his subjects into these three colours, and obtain the combined effect by printing from plates in each colour. But even granting the scientific truth of the theory, J. C. Le Blon and his imitators seldom secured satisfactory results, and often helped out defects in the working of the theory by the use of a fourth plate (with black, or dark grey ink). The impurity of pigments, and impossibility of attaining the true colours, into which a colour subject might be scientifically analysed, is enough to explain the imperfection of results.

## MISCELLANEOUS NOTES ON IMPRESSIONS, STATES, ETC.

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*Original engraving* (etching, etc.) does not imply the original plate (as a plate is never regarded as an end in itself), but a print in which the engraver is his own designer.

*Reproductive engraving*, on the other hand, refers to prints in which the engraver has reproduced the painting or design of another artist.

*Impression* is the term applied to any print from a block, plate, or stone. The number of impressions which can be pulled varies very greatly, according to the material used, and the breadth or fineness of the handling of the subject. Thus a wood block in broad open lines, a metal plate deeply cut or etched, would yield a large number of impressions—some hundreds, or even as many as two or three thousand—without evident deterioration in the clearness of the line. But if the block has delicate lines or fine cross-hatching, or the engraving or etching is equally delicate in its work, the number of good impressions that can be printed is much more limited, as the delicate lines tend to be worn out much more quickly. In woodcut the lines become broken and ragged; in intaglio work the metal is pressed down, partially closing up some of the furrows, and the lines gradually become fainter.

Thus a Rembrandt etching with a delicate mesh of shading, such as the portrait of *Jan Six at the Window*, would yield far fewer satisfactory impressions than an open line etching such as the same master's *Clement de Jonghe*.

In metal work in which *burr* plays an important part, i.e. dry-point and mezzotint, a very small number of effective impressions can be taken—in fact, the plate would generally show signs of deterioration well before the hundredth impression. And late prints from either present a mere ghostly idea of the rich effect of the early impression in which the burr still holds the ink.

About 1820 mezzotint and line-engravers began to use steel plates in place of copper, on account of the greater durability of steel in the printing; but it is a much harder metal to work on, and the method of steel facing by electrolysis has been found to add equal durability to the surface of copper, so that the use of solid steel plates has practically disappeared. In general steel-facing is only used on copper plates for commercial purposes, e.g. when a large edition is needed for book illustration; but some artists, who claim that the microscopic difference it makes to the lines produces no apparent difference to the quality of an impression, use it as a protection to the surface even for more limited issues.

Lithographic stones in general yield a fairly large number of impressions without deterioration, but here again much depends on the quality of the stone and the delicacy of the work.

A perfect impression, apart from showing the engraved work printed clearly and in good preservation, must also be complete, its completeness being generally evidenced in an impression from metal by the *plate-mark*, i.e. the indentation caused in the printing by the edges of the plate. As long as this line is clearly shown it is not at all essential to have a wide margin, which is much less frequently found among the prints of old masters than in modern etchings and engravings. On prints from wood and stone the mark of the edge of the block or stone is seldom so clear, so that one has to depend more on actual knowledge of the size of the subject. An impression cut within the edge of the plate, block, or stone is said to be *clipped*.

A *counterproof* is an impression taken not from the original plate, but from a damp impression, in conjunction with which it is passed through the press. It is naturally much weaker in its effect than an ordinary impression, and presents the subject in the reverse direction. This latter fact accounts for its existence, as the artist takes a counterproof in order to have an impression in the same direction as his original plate, generally as an aid to his corrections or in carrying his work further.

A *maculature* is another form of weak impression. A copper-plate (as well as a block or stone) needs to be inked between each impression. Sometimes a second impression is taken from the plate before re-inking, as a means of extracting the remainder of the ink from the lines. This is called a maculature.

*State* is the term applied to the stages of development of an engraving. The artist constantly takes impressions, or *proofs*, to prove his subject before its completion, and even after its completion he may introduce changes at various intervals. Impressions which show any differences in the work on the original block, plate, or stone are said to be in different *state*.

Some cataloguers reserve the term *state* for the differences after the completion of the subject, using *proof* (*engraver's proof* or *progress proof*) for the stages of the plate before completion, from which only a few impressions would be taken; but as in the majority of cases it is impossible to be certain at what precise point a print may be said to be complete, the only plan which can be carried out logically is to use the word *state* (I, II, III, etc.) for all changes from the inception of the work, keeping *progress proof* or other term, wherever applicable, as a descriptive addition. If a print is in its tenth state (or what not), it is not thereby a bad impression as long as only a few impressions from its earlier states have been printed. And it is equally possible for an early state to be a bad impression if a large number of prints have been taken before any change has been made on the plate.

Differences of lettering on the plate (in fact, any mark on the plate except the fortuitous scratches which naturally appear with the wearing of the copper), as well as work on the subject itself, are of course taken as marks of state. Such artificial distinctions as those of *remarque proofs* (which have had a certain vogue in the XIXth century) are rather to be regretted. The engraver adds a little sketch or token (the *remarque*) in the margin merely as a sign of state.



The following technical terms (chiefly Latin) occur most frequently in the signatures and lettering on prints :—

<i>Sculpsit</i> ( <i>sculp.</i> , <i>sc</i> ), <i>sculptor</i>	.	.	.	.	} Engraved, engraver.
<i>Caelavit</i> , <i>caelator</i>	.	.	.	.	
<i>Incidit</i> ( <i>incid.</i> , <i>inc.</i> ), <i>incisor</i>	.	.	.	.	} Etched (and occasionally for engraved).
<i>Fecit</i> ( <i>fec.</i> , <i>f.</i> )	.	.	.	.	
<i>Fecit aqua forti</i>	.	.	.	.	} Printed (used in a general sense by publisher or printseller).
<i>Excudit</i> ( <i>excud.</i> , <i>exc.</i> )	.	.	.	.	
<i>Formis</i>	.	.	.	.	} Published.
<i>Divulgavit</i>	.	.	.	.	
<i>Impressit</i> ( <i>imp.</i> )	.	.	.	.	} Printed (seldom found except in MS. on modern etchings).
<i>Lith.</i>	.	.	.	.	
	.	.	.	.	} Drew, or printed on stone. Used somewhat promiscuously both for the lithographic draughtsman and the lithographic printer. The lithographic draughtsman is more specifically predicated by <i>del.</i> (see below).
	.	.	.	.	
<i>Lith. by</i>	.	.	.	.	} Lithographed by (generally implying the lithographic printer).
	.	.	.	.	
<i>Pinxit</i> ( <i>pinx.</i> ), <i>pictor</i>	.	.	.	.	} Painted, painter.
<i>Delineavit</i> ( <i>delin.</i> ), <i>delineator</i>	.	.	.	.	
<i>Invenit</i> ( <i>inv.</i> ), <i>inventor</i>	.	.	.	.	} Drew, draughtsman.
<i>Composuit</i>	.	.	.	.	
<i>Figuravit</i>	.	.	.	.	} Designed, designer.
	.	.	.	.	
	.	.	.	.	} Drew (generally referring to a drawing made for the engraver, sometimes by the engraver himself, after a painting to be reproduced).
	.	.	.	.	
<i>Cum privilegio</i>	.	.	.	.	} Implies a privilege to publish, and often a special right, corresponding to modern copyright, granted by some political or ecclesiastical authority.
	.	.	.	.	
<i>Published according to Act of Parliament.</i>	.	.	.	.	} Relating to one of the various Acts of Parliament dealing with the copyright of engravings (from 1735 onwards). The English copyright law has never made it necessary to deposit an impression of each print (as of each book) in any public institution.
	.	.	.	.	
<i>Déposé à la Direction [Générale des Estampes] ; Déposé à la Bibliothèque [Nationale, etc.].</i>	.	.	.	.	} These and similar inscriptions refer to the custom in France after the Revolution of depositing prints with various State Departments, but it never became compulsory.
	.	.	.	.	

In the section devoted to woodcuts we have alluded to impressions from wood-blocks printed on textiles (see p. 13), and occasionally one

finds more recent impressions from copper-plates on satin or silk. But in general, impressions are pulled on paper (or, less frequently, on vellum), and some familiarity with the various qualities of paper is in consequence of value in judging the age of an impression.

Blocks and plates are often printed from centuries after their production. The comparative quality of the work itself ought to help one to detect later reprints, but paper known, from its watermark or otherwise, to have been used at a particular epoch is often a considerable aid. But here, as in many other points referred to in this Guide, words can be of little use. The amateur, who possesses an eye for quality, will train his judgment best by experience and constant comparison of impressions.



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